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ABSTRACT

The general thrust of this report is to examine the impact of school closures on the following clusters of variables: population and land use trends--including changes in age structure, birthrates, racial composition, social and economic characteristics, demolitions and new structures, and occupancy rates in residential and commercial structures; school enrollment changes--including analysis of student mobility immediately following closure; residential property values--including physical characteristics of housing; crime and fire rates; school support by local citizens as measured by local election results; and general quality of neighborhood life--including daily activity patterns, recreational behavior of residents, and community reaction to closure decisions. Because of the widely different data sources and methodologies required to examine the variable clusters, the findings are presented according to variable clusters rather than by school neighborhoods. Certain of the summary data relating to the six clusters are included in the text; additional data has been included in attachments to the report. (Author/IRT)

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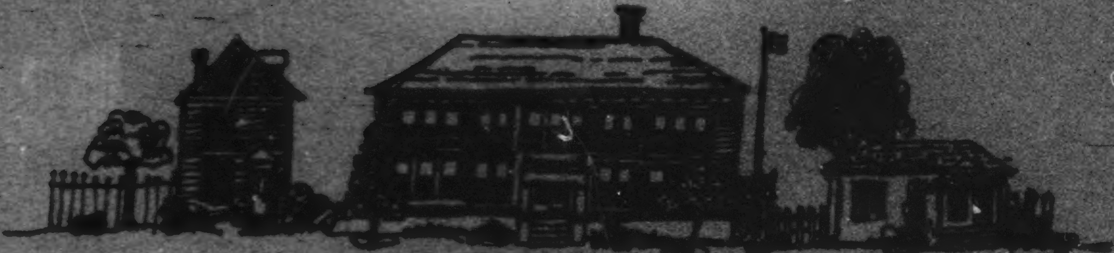

SCHOOLS AND NEIGHBORHOODS RESEARCH STUDY

Neighborhood Impact Study

CITY OF SEATTLE and
SEATTLE PUBLIC SCHOOLS

EA 009 188

NEIGHBORHOOD IMPACT STUDY

FINAL REPORT

August 1, 1976

Prepared by

THE BUREAU OF SCHOOL SERVICE AND RESEARCH
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Prepared for

SCHOOLS AND NEIGHBORHOODS PROJECT

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Attachment

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2A - Allocation of Census Tracts to School Attendance Areas

2B - Detailed Data Tables for Closure and Control Schools

2C - Population Changes by Block in Selected School Areas

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In completing its investigation of school closures in Seattle, the study staff has received excellent cooperation from a number of city and county agencies. The City of Seattle Office of Policy Planning was extremely helpful in sharing census data and records on demolition, new construction and conversion, the King County Assessor's Office assisted with property assessment and sales information, and the King County Elections Office made available its individual precinct records on school elections over the past ten years. The Law and Justice Planning Office of the City of Seattle was helpful in identifying sources of crime statistics and the Seattle Fire Department shared its records on occurrence of residential fires, 1966-1974. Data from each of these sources was essential in examining the impact of previous school closures in the Seattle School District.

Equally important was the cooperation received from various departments within the School District itself. The Superintendent's Office provided access to Board minutes, letters to Board members, and clippings related to closure decisions. The data processing division supplied enrollment counts to study staff members and the testing department assisted in compiling test score data for individual schools. Mr. Donald Eismann, Director of the Schools and Neighborhoods Project, and his two research assistants, Ms. Alice Woldt and Ms. Nancy Burton, were always available to assist in locating needed data sources and attended the several advisory committee meetings. Without help from persons in these several school district offices, the impact study would not have been possible.

Dr. Robert Anderson, Director of the Bureau of School Service and Research, provided both financial support and office space needed for completing the project. Acknowledgment is also given for the secretarial assistance (in different offices on and off campus) required in putting together the various report documents and particularly to Michelle Jones and Christine Vilches of the Bureau of School Service and Research who completed typing on final drafts of the report.

INTRODUCTION

This report presents data and summarizes conclusions related to the Schools and Neighborhoods Research Study. This Schools and Neighborhoods Research Study is a joint City of Seattle and Seattle School District project and is directed by a city-school district advisory committee. The project is funded through a grant from the National Institute of Education. The Study has as one of its major purposes an examination of possible impacts of closing schools. This particular report represents one of the major thrusts of this examination of school closure impacts and concentrates upon an examination of demographic and other trends in Seattle school neighborhoods where closure has been experienced. The work has been completed under contract with the University of Washington's Bureau of School Service and Research which pulled together an interdisciplinary team of investigators to design and carry out the data collection and analysis requirements of the contract.

The specific requirements of the study are detailed in "Contract for Neighborhood Impact Study -- Seattle School District Request for Proposal No. B105042"; however, the general thrust was one of examining the impact of school closures on the following clusters of variables:

- Population and Land Use Trends
  (including changes in age structure, birth rates, racial composition, social and economic characteristics, demolitions and new structures, and occupancy rates in residential and commercial structures)
- School Enrollment Changes
  (including analysis of student mobility immediately following closure)

- Residential Property Values
  (including physical characteristics of housing)
- Crime and Fire Rates
- School Support by Local Citizens
  (as measured by levy election results)
- General Quality of Neighborhood Life
  (including daily activity patterns, recreational behavior of residents, and community reaction to closure decisions)

A single principal investigator was assigned responsibility for each of these variable clusters. The Bureau of School Service and Research has in this report attempted to compile the findings of the several investigators and to draw overall conclusions regarding the impact of school closures in the Seattle School District. Because of the limited number of closure cases and the wide variability of situations represented in these closure cases, it is important to think of this study effort as exploratory in nature. The most that can be said of a generalizable nature is that both the conditions existing at the time of closure and the observed impacts of the closure are different in each closure situation. While it may be possible to draw out of this study effort certain types of school closure situations (e.g., the closure which is an inevitable conclusion of encroaching industrial and commercial land uses or the closure which results from an area-wide decline in school-age children) and to formulate probable impacts for them, it is impossible to generalize across the widely different situations encountered in this limited study within the Seattle School District. Hopefully, using the methodologies of this study in other school closure situations can someday provide more generalizability to the tentative conclusions reached in this exploratory effort.

Because of the widely different data sources and methodologies required to examine the above-listed variable clusters, it makes sense to present the findings according to variable clusters rather than by school neighborhoods. With this in mind, discussion of impacts related to the several variable clusters are included in Chapters 2-6. The overall study plan and the hypotheses formulating the basis of the impact analysis are outlined in Chapter 1. This first chapter also includes a detailed accounting of community reactions to real and threatened school closures in the Seattle School District.

Certain of the summary data relating to the six variable clusters are included in the text of this report. Additional data has been included in attachments to this report. The more detailed data files are available in the offices of the Seattle School District and the Bureau of School Service and Research, University of Washington. It is quite possible that additional analyses of data files accumulated in this study can lead to other insights into the impacts of school closures or can be used as a basis for examining other questions about the school neighborhoods included in this study.

Chapter 1

SCHOOL NEIGHBORHOODS AND THE STUDY DESIGN

Prior to beginning this study of school closure impact, the Schools and Neighborhoods Research Study staff identified five schools which were closed over the ten-year period, 1965-1974. These five schools and their respective closure dates are as follows:

Summit --- 1965

Mann --- 1968

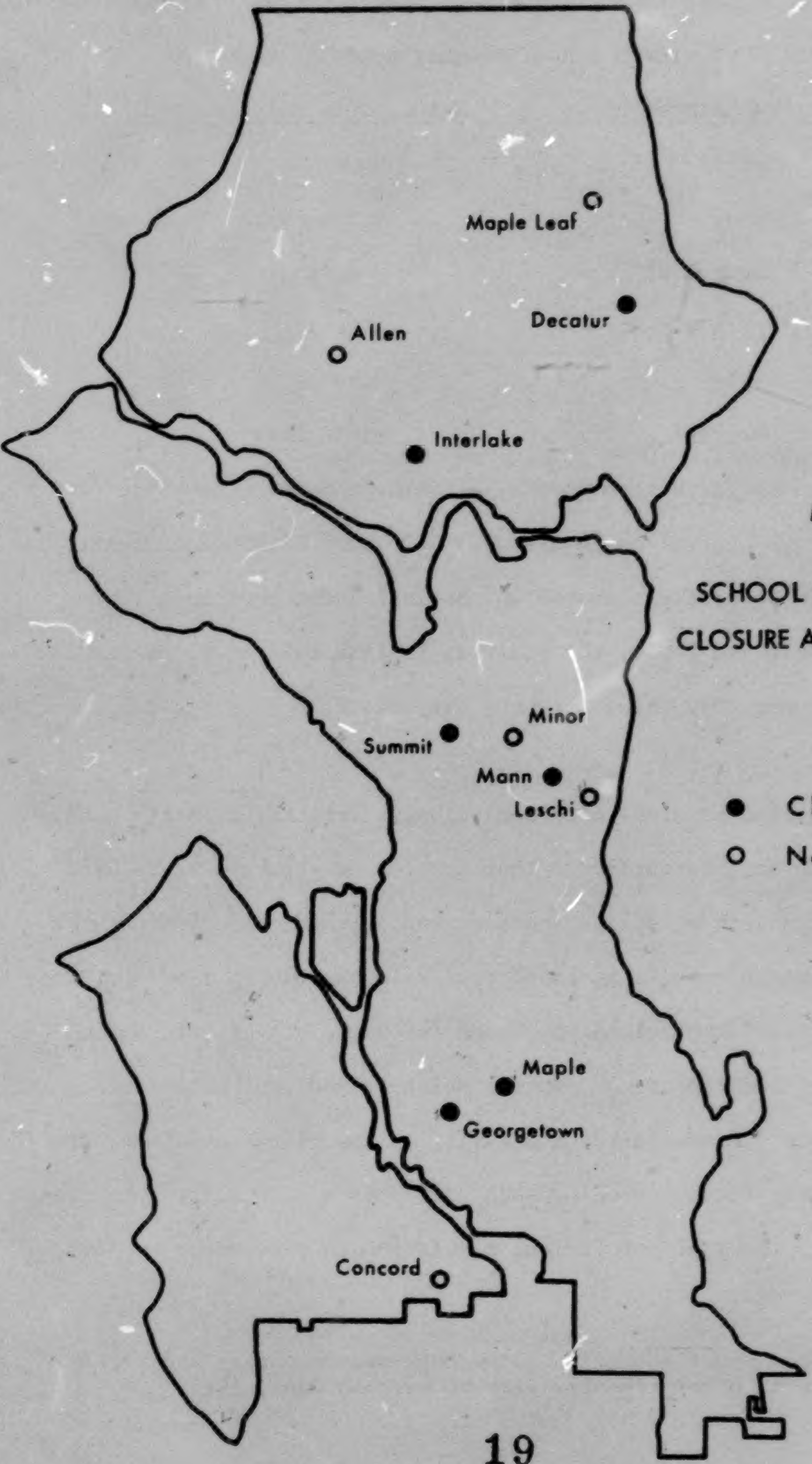
Georgetown --- 1971

Interlake --- 1971

Maple --- 1971

Because at the time of its closure the Maple School was replaced with a new school just a few blocks away, it was decided that Maple should be examined only in a very general way and that Decatur, a school threatened with closure in 1974, should be substituted as a school community to be studied in greater detail.

Also, prior to instituting this impact study, the Schools and Neighborhoods Study staff identified (through the use of 1970 U.S. Census data and factor analysis procedures) control neighborhoods for all except Summit and Maple. The Maple case was discussed above, and the Summit School's unique location on the edge of the downtown commercial area made it impossible to find a suitable control school. Map 1.01 shows the approximate location of each of the closure and control or non-closure


Maple Leaf
Decatur
Allen
Interlake
Minor
Summit
Mann
Leschi
Maple
Georgetown
Concord

MAP 1.01

SCHOOL NEIGHBORHOODS
CLOSURE AND NON-CLOSURE

● Closure
○ Non-Closure

schools involved in this impact study. It should be observed that the study encompassed a total of eleven school neighborhoods:

Closure Neighborhoods	Non-Closure Neighborhoods
Summit	None
Mann	Minor-Leschi
Georgetown	Concord
Interlake	Allen
Maple	None
Decatur*	Maple Leaf

Of these eleven neighborhoods, all except Summit and Maple (which had no non-closure control neighborhoods) have been examined in relation to the six variable clusters listed in the Introduction of this report. In the case of Summit and Maple, the analysis is less extensive, particularly with respect to property values, school levy election results, and student mobility.

This particular study of school closure impacts employs a quasi-experimental approach in the sense that control neighborhoods are used as a basis for comparison of social and demographic changes in most of the closure school areas. While it is obviously impossible to find anything approaching an ideal control neighborhood for any given closure school, selection of the non-closure or control neighborhoods was based upon a factor analysis which considered similarity in important social and demographic characteristics, including such variables as population per square mile, deaths per thousand population, population in same house as 1965, and amount of total acreage committed to government and education use. All variables used in the factor analysis were based on the year 1970.

---

*Decatur was not actually closed but was seriously threatened (along with several other schools) with closure in June, 1974.

In this first chapter of the report, both the characteristics of the closure neighborhoods and the circumstances associated with their closure are described. This chapter also includes a summary of community attitudes toward the several closure decisions. Following these descriptive materials (and in the final part of the Chapter), the study plan is outlined. This study plan includes a brief discussion of the hypotheses which guided the examination of closure impacts in the six closure neighborhoods identified on Map 1.01.

Characteristics of Closure Neighborhoods

In Table 1.01, we observe that all but one of the school neighborhoods included in the closure group fall below the district average in 1960 median family income and that is Decatur, the one school which was only threatened with closure. The same relationship holds for percent of professional/technical and managerial workers with all except Decatur falling below the district average of 26 percent. Interlake most closely matches the district composite; Summit, Mann, and Georgetown clearly deviate the most from district averages, each falling well below the district average on the three socioeconomic indicators presented in Table 1.01. With respect to percent of population under 18 years of age, all districts except Summit and Decatur fall within the 25-35 range. In 1960, only five percent of the Summit area population was under age 18 while 40 percent of the Decatur population was in this same age category. In general, one can see that elementary school closures in the Seattle School District over the past

Table 1.01

Selected Data for Closure Neighborhoods, 1960[a]

School Attendance Area[b]	Median Family Income	Percent of Prof/Tech and Managerial Workers	Percent Unemployed	Percent of Population Under 18
Summit (1965)	$5375	24	14.0	5
Mann (1968)	5235	13	10.6	34
Georgetown (1971)	5808	10	11.3	28
Interlake (1971)	6515	21	6.6	29
Maple (1971)	6810	15	4.5	34
Decatur (1974)	7614	40	2.9	40
Seattle District[c]	$6942	26	6.5	29

[a] The figures in this Table are based on census tract allocations from the 1960 U.S. Census. Schools are listed here according to the year of closure (or threatened closure). The year of closure (a threatened closure in the case of Decatur) is indicated in parentheses following each school.

[b] The attendance areas used here and throughout the report are those existing just prior to closure of the school.

[c] The Seattle District data are actually for the City of Seattle and exclude two census tracts (263 and 264) which overlap with the Seattle School District but are not in the City.

ten years have occurred in neighborhoods which are below the district average in terms of major socioeconomic indicators.

Circumstances Associated with Closure Decisions

"Controversy over closing of Seattle Schools is nothing new." So read a headline in The Seattle Times December 9, 1973. In fact, Seattle has closed 41 schools since 1883. Each produced at least some local personal reactions, and many threw the entire city into turmoil, especially closures in 1932, 1940, 1946, 1971 and threatened closures several other years. Though reasons for both closing and maintaining neighborhood schools often have a familiar ring, each case is distinct and represents a combination of unique individual characteristics based on time, place, and social climate. For this reason comparisons of past and future closures, especially for predicting effects of future closures, must be carefully constructed. While the histories of past closures in Seattle are detailed in the next section of this chapter, it is appropriate here to review the circumstances surrounding each of the six closures (or threatened closures) covered in this particular study.

Summit School was "permanently closed" by a vote of the Seattle School Board on August 25, 1965. Less than three months later Seattle voters authorized sale of the building, but no takers were found. Justification for the closure was given as ". . . because of outworn facilities and a declining school population which made it economically impossible to continue a strong program at that site." (Forbes Bottomly, Superintendent of Seattle Public Schools, in a letter to parents dated July 5, 1966). The 200 students who had attended Summit were bussed to schools outside the Central Area with little reaction from individual parents or the community.

The fact that only five percent of the Summit area population was in the under-18 age classification may explain this absence of any strong negative reaction to closure. Regardless of the building's unsuitability as an elementary school because of its inadequate play area and inability to meet fire codes, the school building remained closed for only one year. From September 1966 through June 1973 the building was leased by Seattle Central Community College to house its classes while its campus was under construction. Efforts to sell the building were repeated during the summer of 1973; but again no acceptable buyers could be found. Even before the solicitation of bids commenced, other potential school uses were suggested including housing the City's second Nova alternative high school, "Ableside." From 1973 until the present time, variously named alternative programs have made use of the basement and sub-basement of the "permanently closed" old Summit School, with a current enrollment of 133 students from throughout the City. Upper floors cannot be used because of failure to meet fire codes. Nevertheless, attempts to close and sell the Summit building again in the summer of 1974 met with even more public reaction than earlier efforts, this time from parents and students involved in the alternative program.

Other schools "permanently closed" since 1965 have somewhat similar histories. Though none is being used for its original purpose--a neighborhood elementary school--all still operate as integral parts of the Seattle school system. Horace Mann School, closed initially at the end of the 1967-68 school year, has been in continuous use since its closure. Though children had been bussed out of the Mann neighborhood for several years because of the school's overcrowded condition and proposals for closing the school had been presented by recognized organizations and individuals from within the Central Area community, reactions to the closure of Mann were significant. Unlike the Summit case, where closure was for primarily physical and demographic reasons, the closure of Mann marked the beginning of the Seattle School Board's long uphill fight to racially integrate the City's schools. Closing Mann meant that a significant number of children from the Central Area, mostly blacks, could be transferred into north-end Seattle neighborhoods. There they would presumably reap the benefits of better school facilities and a better all-around education. Closing Mann also made possible establishment of the City's first "magnet" program, an attempt to keep inner-City students in school through alternative forms of education. As part of an overall expansion of programs at Garfield High School (a block from Mann), Mann helped to provide space for 716 students in dance, pottery, sculpture, painting and other fine arts classes during its first year of closure. Currently, the building houses both the Garfield Alternative Program (GAP) and a Nova program, plus leased space for the Central Seattle Community College.

The 1971 closures of Georgetown, Interlake and Maple schools were for widely divergent reasons. Georgetown was a dying neighborhood with an anticipated elementary school population of less than 50 students by 1980. By the spring of 1969 the school was declared ". . . the only remaining viable social institution" in the community by its principal, and "its Parent-Teacher Association [was] down to four or five conscientious regulars" (The Seattle Times, April 10, 1969). There was little question that the school should be closed for demographic and economic reasons. With completion of the new Maple school in February 1971, all Georgetown students were transferred out of the old building. However, the building's vacancy was short lived. Members of the community petitioned to have the building's annexes used as a Georgetown Service Center even before the closure was completed. Beginning with the 1971-72 school year, Georgetown became the home of the new Project Interchange Junior/Senior High School for would-be dropouts from throughout the City. The school has been fully utilized since its closure, currently housing 191 students plus many extracurricular and community activities.

Old Maple School was "permanently closed" in February 1971 only to be replaced by the New Maple School several blocks away. Primary justification for closure was given as physical deterioration. Like the Summit school, Maple was a multi-level building without sprinklers for the upper floors and therefore could not meet fire codes. In addition, more space was needed to house students from other old or declining schools including Georgetown. The decision to close and replace Maple School was apparently made as early as 1962, allowing adequate time for assigning students to any of three new schools in the Beacon Hill area. Within a year after the school's closure as a regular elementary facility, its lower floors became home for Alternative Elementary School #1 which had been in leased facilities since 1969. Like the other alternative programs, students are drawn from throughout the City into, in this case, a "free school" situation. Enrollment in this program continues at about 100 students.

Interlake Elementary School was "permanently closed" at the end of the 1970-71 school year primarily as a means of accommodating the School Board's mandatory transfer plan for school integration. If Lincoln High School was to achieve a more integrated enrollment, more space was needed in the area. Interlake School had the potential of providing that space. Speculation about the closure and mandatory bussing plans for racial integration began at least a full year before the actual closure decision; however, it is doubtful that the parents of Interlake students became aware of a definite closure possibility until March 1971. Because of the inextricable links between the closure and racial integration plans, it is virtually impossible to determine which caused the greater outcry. The approximately 460 elementary students attending Interlake at the time of closure were transferred to Day, Latona and McDonald schools as high school students from both the immediate attendance area and the Central Area moved into the old Interlake building. The entire building was used as expansion classrooms for Lincoln High School until Spring 1975 when declining secondary enrollments released part of Interlake for other uses. During the 1975-76 school year the building began housing a wide range of activities including Follow Through, Work Training, Interim School programs, Special Counseling and Continuation, a nursery for the School-Age Parent Program, People's School, a surplus book depository, and binding operations for the school district. The building has been continuously utilized since its closure as an elementary school in 1971.

Decatur Elementary presents a still different picture, as it was merely threatened with closure to have occurred by fall of 1975. Because of a moratorium on school closures announced at the end of August 1974, actual closure never occurred for Decatur and six other schools threatened with closure that year. However, the threat of closure was certainly perceived as real from its first proposal to the School Board on June 26, 1974, until the moratorium was voted two months later. Unlike five of the other schools announced for possible closure at the time, Decatur had not been previously threatened and was essentially a replacement on the previous year's list for View Ridge, an adjacent attendance area which provided "a storm of outcry" the summer before (The Seattle Times, June 26, 1974). Thanks to the closure moratorium, Decatur continues to perform as an elementary school, though not all of its physical facilities are being fully utilized.

Having reviewed the wide variation in circumstances associated with the several closures, it is important to examine in greater detail the community reactions to school closure decisions and the way in which those reactions affected decisions during the years immediately following closure. This examination of community attitudes toward school closure (both those of a general nature and those related to specific school closures) follows in the next section of this chapter.

Community Attitudes Toward School Closure

> "More than 900 parents protested. They contended their children would have too far to walk in attending other schools and would face dangerous crossings."

> "Parents in the neighborhood have opposed this move bitterly, but the School Board decided that residential population in this area has declined so steadily, it is no longer economically sound to operate the two institutions."

Sound familiar? Although these quotations are not from current or even recent debates over school closures, they could probably be reconstituted for 25 of the last 75 years. In fact, they reflect attitudes and reactions to closures which occurred over a generation ago in Seattle. Both taking place in 1940, the first is a summary of a Seattle Times news account of a hearing where parents lost an appeal against closing the old Rainier School at Twenty-third Avenue South and South King Street. The second sums up the losing cause of parents in Ballard to save both the Irving and Ross schools from closure. Mercer School was also closed that same year.

History tells us that regardless of what school is facing closure, there's bound to be some personal reaction. The magnitude and form of the reaction, however, may be shown to vary widely as a function of timing, socioeconomic class of the school's constituents, and level of political organization. Such variations are illustrated vividly in the responses found to the six closures studied in this report. This section of the report analyzes community attitudes and actions with respect to the six closure situations. The analysis proceeds from a review of the context of these closures relative to the Seattle school situation in general to specific reviews of community responses to the six school closure cases examined in this study. The data sources used in completing this analysis are identified in Attachment 1A.

Seattle School Context, 1960-1974---Closure of schools may be justified for a number of different reasons. As discussed previously, the six closures and threatened closures studied in this research were justified either in terms of physical inadequacy, program emphasis, neighborhood population change, and/or fiscal inadequacy. Because neighborhood population change is considered in Chapter 2 of this report, it will not be examined in detail here. The other three reasons for school closure and their respective roles in the Seattle school situation are dealt with herein.

Seattle has been faced with problems of outmoded physical facilities for many years. The early 1900's was a period of rapid population growth for the City and its suburbs; the school district responded by building between 1900 and 1910 a band of schools adjacent to the central city. All of the six closure schools included in this study except Decatur were part of this construction boom. In addition, 27 other schools were built during this ten-year period.

In times of stringent budget constraints, as Seattle has faced often during the past twenty years, allocations for maintenance and renovation are among the first cut. A visit to almost any of the schools built during the 1900-1910 period will provide ample support for this statement. The age of school buildings also often hinders modernization of school curricula. Most of the schools built during the first decade of this century included neither indoor recreation spaces (i.e., gymnasiums) nor auditoriums capable of holding a significant portion of the school's population. Limitations such as these, plus the inability to alter the building's inside partitions without high costs in time and money, make it difficult to operate certain modern programs at an efficient level.

Coupled with these problems of physical decay and inadequacy are the declining enrollments Seattle has been experiencing for the past 14 years. In 1962, enrollment in the Seattle School District peaked at 106,000. A 1974 projection estimated 1977 enrollments at 57,000 (The Seattle Times, June 26, 1974). The 1975-76 total enrollment was 66,400 on October 1, 1975 (personal communication, Jim Faris). A recent student migration study of 51 school districts in the State showed a net loss of 2,806 students from the Seattle Public Schools between June 1974 and January 1975. Continued levy failures and suburbanization will only hasten this out-migration process, leaving the City of Seattle relatively devoid of a significant school-age population. Since a critical mass of at least 200-300 elementary students is judged by most educators to be necessary to carry out a well-rounded primary education program efficiently, more schools may have to be closed if the exodus continues. Based on these demographic and fiscal trends, the Seattle School District predicted in April 1975 that from 20 to 24 schools would have to be closed by 1980.

The national and local movements for school integration following the racial conflicts of the late 1960's have also had a profound effect on school planning in Seattle. As early as May 1965, the Seattle Urban League had formally proposed that the School District adopt a "triad plan" for racial equality. Affecting grades one through six only, the plan called for treating trios of three schools as one, with each of the triad members containing only a single pair of grades. For example, in the proposal one of the suggested triads involved Interlake, Lowell and Mann. Interlake was to house first and second grades only; Lowell would contain only third and fourth grades; and Mann would consist of fifth and sixth grade classes. In this way, students from each of the attendance areas would be forced to interact with each other throughout their primary education and all students, not just the blacks, would experience bussing. However, the plan was rejected less than a week after its first airing. 1965 was apparently too early for forced racial integration in Seattle.

Volunteer transfer programs aimed at bringing black children from the Central Area into other parts of the city where white children dominated and vice versa were first initiated in the fall of 1963. At that time, 238 black pupils were bussed to schools of their choice outside the Central Area, presumably without incident (Seattle Junior Chamber of Commerce, Problems and Progress in Seattle Public Schools, 1964). Precise figures describing who was bussed where are sketchy, but by the 1967-68 school year, approximately 100 white students were being bussed into the Central Area each day voluntarily, while 300 black students were bussed in the opposite direction. The following year there were approximately 400 students being transferred in each direction.

The first mandatory transfers of pupils in Seattle were not for the purpose of racial integration, but to optimize space utilization within the district. In September 1965, 380 students from Mann, Leschi, and just-closed Summit were transferred to North-end schools. With the closure of Horace Mann Elementary in 1968, the number of mandatory transfers reached about 1,500. For the most part, these were minority and economically poorer students being bussed to schools outside the Central Area.

Concern over bussing and neighborhood schools came to the forefront of Seattle news and politics in 1970 when Superintendent Forbes Bottomly's long-discussed 4-4-4 plan (a plan which would replace the existing junior highs with middle schools serving grades 5-8) was to be instituted. On September 27, 1970, the Seattle Post-Intelligencer's page one headline read, "Seattle Schools Plan Mandatory Bussing." Between October and March, virtually every neighborhood, Parent-Teacher Association, and city-wide civic group reacted. Several previously inconspicuous groups which had been opposing each other over Bottomly's "continuous progress centers" plan since 1966, Save Our Neighborhood Schools (SONS) and Citizens for Quality Education, suddenly became rallying points for citizen reactions. However, because a number of interrelated changes were occurring at once--mandatory bussing of blacks and whites for racial integration; change from neighborhood to city-wide schools; associated school closures; perceived change in the locus of school control--it is virtually impossible to tell which change was most important to the citizenry. Quite often the effects of the concomitant changes were inseparable. For example, one letter sent to the School Board in March 1971 included comments about "wanton school closure," "equal rights with the Central Area School Council," "lack of authority, allowing pot-smoking and other drugs in our schools," and "tampering with history" by changing to the 4-4-4 plan. As will be seen in the individual case study discussions, in some cases the first and loudest reaction was to the principle of mandatory bussing. Reactions to specific school closures were often relegated to second place behind the broader and more all-encompassing bussing issue.

Immediately following the massive protests relating generally to the bussing and intermediate school plan came a new levy request in May 1971. In a statement released April 14, the School Board threatened a 20 percent increase in class size and the closure of nine more schools if the year's second levy failed. Luckily, it passed. (See Chapter 6, School Support by Citizens.) But even when the levies passed in 1973 and 1974, lists of proposed closures to meet budgetary restrictions were prepared and made public. Six Seattle elementary schools--Northgate, University Heights, Webster, View Ridge, Seward and High Point--were listed as having "met the school administration's criteria for closure in the 1974-75 school year" (P-I, June 13, 1973). In this case, "the decision to close six elementary schools in the 1974-75 school year is part of a long-range administration plan to reduce school overhead costs in line with a predicted steady decline in enrollment" (Ibid.).

Only the last two schools on the list were among the nine schools similarly threatened in 1971. Seven elementary schools, including all of the above except View Ridge plus West Queen Anne and Decatur, were proposed for closure again by the fall of 1975 in an administrative-planning document released June 26, 1974. Again, the closures never materialized and a one-year moratorium was placed on school closures after a "storm of protest" from all communities affected. Justification cited for the closures was consolidation to save costs as enrollments continued to decline. The proposed temporary closure of five elementary schools in 1976 is for similar reasons and, surprisingly, is to involve several schools not previously threatened.

Analysis of Specific Closure Situations---Up to this point, we have examined in a general way problems related to past school closures in the Seattle District and the reasons for these closures. We turn now to more specific reactions to the six closures forming the focus of this study.

1. Summit Elementary School.

Information about community attitudes and actions regarding the Summit School Closure in 1965 is exceedingly sparse. Time and lack of a significant reaction at the time of closure have obscured the 1965 situation. No community people either active or knowledgable about the closure at the time of its occurrence could be identified. The Seattle Citizens Committee for School Support, though established around 1963, apparently did not get involved in the Summit closure. Given the lack of community roles in decision-making at this time, the dispersed and transient nature of the community, and the seemingly legitimate reasons for closure (outworn facilities and declining neighborhood school population), the lack of response is not surprising.

Even the allocation of the students displaced by closure of Summit to the City's first mandatory bussing program produced a minimal response. Summit students were transferred to Bagley, View Ridge, McDonald and Interlake elementary schools, all across the ship canal. The only documented responses found through all sources were a single article in both the P-I and The Seattle Times about the school being closed (dated August 26, 1965) and an article reminiscing "the good old days" that Summit had seen which appeared in The Seattle Times September 1, 1965. No letters to the editor of newspapers or letters to School Board members were found, though this could be simply an indicator of selective saving of records by the School District office.

In contrast, a 1974 effort to reclose the school and sell it as surplus school district property met with immediate and vociferous responses from the constituents of the Alternative Program being housed there. A statement from the school's director, presumably representing the school community, and personal letters from approximately two dozen parents and students were received by members of the Seattle School Board immediately after the sale announcement was made. Since no bidders were found either through sealed bids or through public auction, the basement floor of Summit continues to be used by the Summit Alternative School, a high school program serving 133 students in 1975-76 from throughout the City. The top two floors remain boarded up because of inadequate fire protection. Exterior paint is peeling, and the general appearance of the building and grounds is of a long forgotten edifice. In five observations at the site, the only observed use of external school facilities was by students having lunch on the Summit Street side of the building on a warm sunny day. With no recreational equipment or space available at the Summit site, it is not surprising that more outside activities were not found.

To summarize, it appears that the minimal response to the original Summit closure was justified given the timing and reasons for closure. Changing attitudes and public participation in decision making have placed Summit in a different role since its use for a city-wide school program has given the old school a new life which is meaningful to at least some of its constituents and worth fighting to retain.

2. Horace Mann Elementary School.

Although officially closed for the 1968-69 school year, Mann School has in fact been in use continuously for purposes other than those it was originally intended to fulfill. What is perhaps more important is that these post-closure uses have been tailor-made to the inner-City community the school serves, though not limited to use only by neighborhood residents. First official notification of Mann's closure appeared in Seattle's two most prominent dailies on January 30, 1968. Originally, Washington Junior High School and Mann were to be closed simultaneously and enrollment at Garfield High School was to be reduced in an effort aimed primarily at improving racial integration in the City. Voluntary bussing from Mann had been in progress since the 1963-64 school year and some mandatory bussing to relieve overcrowding in Mann and Leschi began in 1965-66. The complete closure of Mann School, approved by the Seattle School Board on April 10, 1968, required relocation of 240 students. They were bussed to the North-end schools of Seward, Greenwood, B. F. Day, and Loyal Heights.

Reactions to the proposed closure(s) from the community were mixed. At the outset all seemed calm. A Seattle Times article dated February 2, 1968 (three days after the closure announcement) carried the title: "Closure of Two Schools Demanded." The Rev. Dr. John H. Adams, a prominent member of the City's black community and chairman of the Central Area Civil Rights Committee, was quoted as calling the Mann School "an educational fraud and a fire trap" and demanding its immediate closure and removal of its students to better facilities in the North end. Other members of the informal triumvirate of civil rights leaders in the black community at the time, including Edward Pratt, Director of the Urban League, and Samuel McKinney, Pastor of the Mount Zion Baptist Church, also pushed for closure of the school as the only reasonable way to begin truly integrating Seattle's schools.

Public meetings sponsored by several civic groups provided opposing views on the planned closure. The outward message from the first few informal public meetings was reported in The Seattle Times as "Do not close Mann or Washington and make racial bussing a two-way street--50-50 mandatory bussing of Negro youngsters outside of the Central Area and of white youngsters into Central Area schools" (February 28, 1968). In a meeting on the proposal sponsored by Adams' Central Area Civil Rights Committee held March 6th, 19 or 20 people who spoke were against closure and the vast majority of the approximately 400 in attendance seemingly agreed. 1100 signatures were gathered on a petition which specifically opposed closing Washington Junior High and cutting back the Garfield enrollments. However, it did not deal directly with the Mann closure.

A week later the League of Women Voters of Seattle began a petition drive in support of the Mann and Washington closures. No report of the success of this drive could be found. Interviews with students, parents, and teachers associated with Mann appeared in a full-page Times article on March 31 showing overwhelming opposition to the school's closure.

These disparate attitudes were also borne out in interviews with people who were active in the community in 1968. The PTA president at the time of closure thought there was a strong protest by the community to the closure announcement on the basis that the Central Area was being asked unfairly to make all the moves toward desegregation. On the other hand, the Mann-Minor Community Council was for closure on the basis of inadequate facilities and felt that neighborhood residents reacted favorably to the closure on the whole. It had little or no effect on the neighborhood, was easily accepted by the children, and has had a good long-run effect, improving the quality of education received by Central Area children. In contrast, the PTA president feels that the closure of Mann left a void in the community, caused many families to relocate, and has led to more rapid decay of the neighborhood, especially in the vicinity of the school. Children were apprehensive about being transferred and reacted in mixed ways to the change, some positively and some negatively. The biggest complaint on the part of the PTA and parents was that the closure of Mann, in particular, was merely a token effort on the part of the School Board to promote *de facto* integration with little overall benefit to those being educated. Responses to the interviews conducted by the Times were more similar to those given by the PTA president than the community council representative, though there is no way of knowing at this point how representative either response format is.

Like the old Summit school, Mann, now home for part of the Garfield Alternative Program and Nova, sorely needs a new coat of paint. So do many of the houses in the neighborhood just north and west of the school. Without comparable observational data at the time of closure it is impossible to tell whether the level of neighborhood physical deterioration today is greater or less than it was in 1968. In three trips through the area, outside of regular school hours, less than a dozen children were seen outside. Most of those were making use of the play equipment, ball fields, etc., across East Cherry Street at the Garfield Playfield. During school hours, several students were observed participating in school-related activities either in the parking lots on the east side of the building or on the building's front steps.

Whichever school official said that "We wouldn't have been able to close Mann School if we had tried to do it after 1968, nor would we have wanted to" hit the nail squarely on the head. With the diversity of opinions held by community leaders and representatives with respect to the closure decision and the growing consciousness of being a black community, it is surprising that the closure ever came about. The fact that an alternative program focusing on artistic awareness for blacks had already been designed to move into Mann after its elementary uses were discontinued was probably the closure plan's one saving grace.

Formation of a Central Area School Council as an advisory committee to the School Board the following year is indicative of the growing awareness of special Central Area needs both within and without the community. Mobilization of residents and leaders in the dispute over school closures, including Mann, Washington and Garfield undoubtedly helped lay the groundwork for the greatly increased Central Area participation in City decision making during the next five years.

3. Georgetown Elementary School.

Closure of both Georgetown and Maple Elementary Schools was announced, or at least intimated, long before the actual closures occurred. Elimination of these schools and replacement with a new structure in the Maple area were planned as early as 1962, though neither occurred until the end of the 1970-71 school year. Construction plans publicized in early 1970 called for movement of students from Georgetown and Old Maple into their new school in mid-year. It is interesting to note that the Georgetown community received considerable press coverage during the late 1960's because of its "dying community" status. The school served as the primary focal point of an article published in the P-I on April 10, 1969, entitled "Georgetown: Poverty Pocket with Huge Housing Problem." The article painted a bleak picture for the community, saying that there was no future for family housing in Georgetown because of the industrial zoning and continued expansion of the industrial area. It also pointed to the lack of community spirit among the primarily impoverished white population. Quoting the article:

> There is little sense of community left. The school is the only remaining viable social institution and its Parent-Teacher Association is down to 'four or five conscientious regulars' according to Georgetown School Principal, Robert Middleton.

Under these conditions, it is certainly not surprising that a large reaction to the school's closure did not occur. Only three letters from Georgetown area residents questioning the school's closure were found in the School Board's files. Two were totally personal in nature; the third mentioned that "everyone abhorred that Georgetown School is closing," including "juvenile officers, social workers, librarians, local businessmen, and plain ordinary citizens," though no names were given (letter of June 13, 1970).

It is important to understand that Georgetown School served more than the educational needs of its constituents. The school also provided a home for a clothing distribution program for the neighborhood, showers, a free hot lunch program (through the South District Lions Club), and other similar services aimed at the area's poverty population. These were generally perceived by City and community officials to be necessary services for a highly transient and impoverished neighborhood. Greater than 100 percent turnover in the school's population during a single school year was not considered unusual; neither was the virtual lack of parental involvement in organized school activities or the city-wide political process. Such participation is rarely found in communities with such high levels of mobility.

As Principal Middleton observed in a Times article published June 6, 1970, it is ironic that "Now we're ready to close the place down and suddenly the community comes to life." The new life included formation of the Georgetown Community Council in 1970 as the first viable public force in the community for decades. Though too late to do anything about the school's closure, the Community Council did take active roles in restructuring the School District's plan (or lack of plan) to transport Georgetown children to the New Maple School and in fighting for use of the old school as a community facility after its closure.

The latter proposal was apparently first made in a letter to the School Board from the Council's chairperson on August 4, 1970. The following petition was then circulated:

> We, the undersigned, petition the Seattle School Board to consider our proposal that the Georgetown Elementary School buildings be made available as a Community Center. This proposal is endorsed by the Georgetown Community Council, and is in accordance with Mayor Ulman's desire that local community and neighborhood councils and activity centers be established within the City. It will be our desire that the buildings be used to provide the health, welfare, social and educational services in the community.

The petition contained 1,262 signatures when received by the School Board. Letters of support for this proposal were also received from Dr. A. S. Swanson of the University of Washington's Medical School, pointing out the utility of the Georgetown medical clinic as a training unit for inner-City medical personnel, and R. R. Bob Grieve, a Washington State Senator.

Despite this surprising show of interest and support from a previously assumed "dead" community, the President of the School District's Board of Directors responded in a letter dated February 1, 1971 that "we have a responsibility to the taxpayers which requires that we dispose of facilities that are no longer being used by the School District." Continued efforts on the part of the community Council and the City finally resulted in the signing of a lease for use of the school's annex (portables) for a cost of $1.00 per year on August 8, 1971. The Georgetown Active Citizens Service Association continues to occupy the annex. However, some services previously provided through the school, such as showers, free lunches, bookmobile, and scouting, are no longer available to the Georgetown community because of the closure.

In summary, though there was no significant community reaction to the basic closure issue, the indirect effects of closing Georgetown Elementary School did provide a rallying cry for the community's residents. Considering the size, socioeconomic status, and previous inactivity of the area's population, the level of response achieved to the community center proposal must be considered significant. Although it is easy to attribute the decline of Georgetown to industrial encroachment on the community, it is difficult to neglect the fact that the community did respond, and respond in surprisingly great numbers, when the future of the only community service unit was at stake.

4. Maple Elementary School.

As discussed in the previous section, the closure of Maple School was announced long before its actual occurrence. Because a new replacement for Old Maple School was available within the same general vicinity (less than a mile walking distance) and because it was designed to meet the needs of a modern and complete elementary curriculum, little response was heard from the community. In fact, not only did the Maple community not respond to the old school's closure, but there was also no group response from the neighborhood with respect to the mandatory bussing issue that had the rest of the City up in arms during the winter and spring of 1971. Presumably this was because people in the area did not feel threatened by the bussing plan. No letters were found in the School Board's files and no active individuals in the community could be identified through newspaper clippings and information interviews to question regarding community involvement in the school's closure. It is therefore assumed that there was virtually no community response to the closure of Old Maple School in 1971.

5. Interlake Elementary School.

The response from Interlake was completely opposite that from Maple--a massive public reaction in every forum available to the people of the Interlake neighborhood. Given that the Interlake Elementary School was being closed to allow mandatory bussing and the institution of the 4-4-4 plan by increasing Lincoln High School to four years and housing the overflow in the Interlake building, the difference is not terribly surprising. The North-end as a whole was particularly vociferous in its response to the bussing and reorganization issues; Interlake was no exception in that respect.

Official notification that Interlake was to be closed in 1971 as an elementary school did not occur until January 27, 1971, when the Seattle School Board announced its desegregation plan. However, speculation as to what changes would be made had been blanketing the City and neighborhood news media for several months. Two alternative desegregation plans that the Board was considering were disclosed in October 1970. Plan A, the District's original proposal, did not involve Lincoln or Interlake at all. Plan B, the Central Area School Council's proposal, called for large-scale bussing between Garfield, Lincoln and Roosevelt High Schools as well as between four middle schools. A series of hearings were to be held throughout the City on these plans and a decision made by November 11.

The response to the hearings and initial disclosure was overwhelming. A statement from the Board President less than two weeks after the announcement mentioned the "many letters and phone calls from citizens expressing concern over complications of bussing and how it will affect their youngsters," especially regarding the middle schools (news release dated October 28, 1970). The Board's desegregation plan, announced in a statement by Mrs. Forrest S. Smith on November 11, 1970, included three main program changes:

a) Exchange of approximately 1,200 pupils between Garfield, Roosevelt and Lincoln areas;

b) Establishment of fifth and sixth grade centers at Allen, Interlake, Ravenna and Bryant Elementary Schools; and

c) Creation of seventh and eighth grade centers at Wilson, Hamilton, Marshall and Eckstein Junior High Schools.

Obviously, the Board had no intention of closing Interlake as an elementary school at that time.

Throughout the last three months of 1970, the Board was deluged with responses to their bussing plans. Late October and early November saw a massive outpouring of votes and petitions from Parent-Teacher Associations, especially those in the North-end of the City. The vast majority was against any mandatory bussing whatsoever. Both Interlake and Allen voted with the majority, recording their votes with the School Board in formal letters from the PTA presidents. Only the local NAACP, John Muir PTA, Seattle Urban League, Church Council of Greater Seattle, Seattle Junior Chamber of Commerce, American Jewish Committee, and Citizens for Quality Education came out strongly and publicly in favor of mandatory bussing. At that, some of the above organizations waited until March to publicize their positions. A typical response from individuals was "I, for one, will never allow my children to fall victim to your ruthless policy" (Interlake attendance area, November 24, 1970), though many were much less obvious in expressing their feelings.

Almost simultaneously the School Board was receiving more masses of mail about the unequal rights afforded the Central Area population with respect to school decision making. Formation of the Central Area School Council several years previously had, according to many North-end residents, given the Central Area added power in maneuvering the desegregation controversy. Petitions were received from several other regions of the City demanding equal representation, including supporters of a new Lincoln School District (letter of December 22, 1970, with eight signers).

Out of these responses emerged yet another plan from the Seattle School Board. On January 27, 1971, they announced that the following changes would be made in the Lincoln-Roosevelt areas for the 1971-72 school year:

a) Eckstein, Hamilton and Wilson to become grades 6-8.
b) Marshall to become a grades 9-12 satellite of Roosevelt, plus special education.

c) Marshall 1970-71 grade 7 to be split between Eckstein and Hamilton.
d) Interlake to become a grades 9-12 satellite of Lincoln.
e) All elementary feeder schools to become K-5 only.
f) K-5 from Interlake to be dispersed between Day, Latona and McDonald.

Once again, the School Board had managed to generate an immediate and massive response from previously docile communities. Interlake Elementary PTA once again "voted overwhelmingly to oppose compulsory bussing of school children from their respective neighborhoods regardless of reasons" (from statement which appeared in all relevant Seattle dailies and weeklies circa February 10, 1971). The University District Herald reported in its March 10 issue the results of a poll it took in mid-to-late February: 86 percent opposed mandatory student assignment outside the neighborhood school; 37 percent believed that parental approval should be required for assignment outside the neighborhood; 74 percent answered negatively to the statement "Do you think black enrollment in the Roosevelt-Lincoln area schools should exceed 12 percent?"; and 80 percent responded negatively to the statement "Do you favor extension of the Central Area boundaries to include Lincoln, Garfield, and Roosevelt under one administrator?" The Northgate/North Seattle Journal reported similar findings in a city-wide survey conducted by the Ingraham Area Citizen's Council (January 21, 1971).

A group calling themselves Interlake Parents and Friends followed up the PTA's vote with a letter to the Seattle School Board on March 20 outlining "a number of factors we in the community hope you will take under advisement" and requesting reconsideration of the decision to close Interlake as an elementary school facility. The letter stated that Interlake School (a) "is more than an elementary education center," providing for other community activities, such as political meetings, scouts, and support for the Wallingford Community Council; (b) helped provide the leadership to form the North Central School Council, which has supported the financial needs of the City's schools; (c) was too far from other elementary schools to expect kindergarten children to walk; (d) was quite adequate as an elementary facility, thanks to its recent building renovation and landscaping recommended by the Wallingford Community Council; and (e) provided a "focal point . . . in terms of a hub for neighborhood involvement."

This letter was followed up by the following petition signed by 798 Interlake area residents at the School Board meeting on May 12, 1971:

> We, the undersigned residents of Wallingford and parents or neighbors of Interlake Elementary school children, are in support of the March 20, 1971 letter from Interlake parents and friends in requesting that the School Board reverse its decision to close the Interlake facility as an elementary school program center.

None of these actions did any good. The School Board held fast to its January 27 desegregation plan and closed Interlake as an elementary facility at the end of the 1970-71 school year. Both people interviewed formally about the community and closure reported that many families with children moved out of the community immediately after the school closed. One person estimated that 15-to-20 percent of those moving away from the neighborhood also moved out of the Seattle school system entirely. However, the other respondent suggested that there were "too many other variables [operating] to relate [neighborhood changes] directly to the schools."

Thus, the Interlake closure and months of anticipation through the mandatory bussing and Central Area School Council issues produced by far the greatest response to a School Board decision to date. However, it must be remembered that much of this response was due not to the local issue of actually closing Interlake School, but to the wider problems being responded to throughout the North-end and other parts of the City. The magnitude of response to closing the school as an elementary facility would probably not have been as great if the neighborhood had not already been mobilized into action by the Board's previous and coincident announcements.

6. Decatur.

The threatened closure of Decatur was first announced on June 27, 1974, as an essentially economic measure. As in the other six neighborhoods threatened with closure of their local elementary school that year, Decatur residents organized to save the school. "Friends for Decatur" was said to be one of the best organized groups of the summer. When the School Board had a public meeting at the school to hear the citizens' responses to their closure proposal, 200 persons appeared. According to one newspaper account, "Members of Friends of Decatur spent three hours making point-by-point rebuttals to the arguments suggested by the District to support closure" (P-I, August 2, 1974). During the meeting, a petition bearing 900 signatures in support of saving the school from closure was presented to the Board.

In addition, the School Board received numerous letters from residents of the Decatur and adjoining attendance areas in favor of retaining the school as an elementary facility. Because of the innovative programs for gifted children available at the Decatur school, children from adjoining attendance areas may be enrolled at Decatur. Thus, the response to its closure exceeded the community's normal bounds.

Additional support for the school proved unnecessary when the City came to the neighborhood's rescue and requested that the Seattle School Board delay its decision on whether or not to close the seven elementary schools on August 22, 1974. Superintendent Loren Troxel announced three days later that he would recommend that any decision on the closure of the seven Seattle elementary schools be delayed for at least three years. Such a delay would allow completion of a comprehensive facilities plan to guide the schools through 1980 and beyond (The Seattle Times, August 25, 1974). A one-year moratorium was agreed to by the School Board at their September 4 meeting. The amount and sophistication of public input to the school closure public meetings apparently was a strong contributor to the moratorium decision.

Plan of Study

Having presented a reasonably detailed history behind each of the school closures covered in this particular study, it is important to define the study questions or hypotheses which guide the data collection and analysis phases of the study. Knowledge and theories about urban community structure and succession lead to two somewhat contradictory hypotheses:

Hypothesis #1: To the extent that the school is a major component of community identity, its closure will lead to rapid changes in overall community structure.

Hypothesis #2: School closure is the expected result of prior changes in community structure, including the processes of urban growth and succession.

Quite obviously, both hypotheses could be supported to some degree in the same closure situation. In other words, a given school closure could be seen as part of a normal process of urban growth and succession (Hypothesis #2) and the school neighborhood could still experience even more rapid changes in overall structure immediately following the event of closure (Hypothesis #1). Despite this potential for support of both hypotheses in a given situation, it makes sense to look at data in each of the closure neighborhoods in relation to the two hypotheses separately. This, then, is the intent in subsequent chapters of this report.

Before proceeding with the actual presentation and analysis of data, it is well to caution the reader that, in some cases, inadequate data sources, the absence of control areas, and the relatively short time span since closure have made it virtually impossible to provide a clear examination of the two hypotheses listed above. In all cases, the study staff has attempted to give its best judgment as to the degree of support for the two alternative hypotheses and fully recognizes that anything approaching absolute proof of one hypothesis or the other is impossible. When dealing with a complex social and political issue like school closure, the most that can be expected is a description of most likely impact. The establishment of definite cause and effect relationships cannot be accomplished, particularly when dealing with events of the past.

Because of the widely different data sources and methodologies employed in relation to the six variable categories (population and land use trends, school enrollment changes, residential property values, crime and fire rates, school support by local citizens, and general quality of neighborhood life), it has been necessary to explain the data sources and specific methodology in each of the individual chapters. Suffice it here to simply stress that the two basic hypotheses previously listed guide the study in all school areas and in relation to all variables being examined. When possible, the change in variables has been examined in relation to distance from the school facility. This latter procedure provides a more complete test of the two hypotheses forming the overall direction to the study effort.

Chapter 2

POPULATION AND LAND USE IN SCHOOL NEIGHBORHOODS

One important test of the two hypotheses listed in the previous chapter involves an examination of comparative rates of change in population and land use variables in the closure and non-closure school neighborhoods. With this in mind, we present in this chapter of the report an examination of pre- and post-closure trends in a wide variety of population, mobility, socioeconomic, and housing and land use variables. Most of these variables are readily available in U. S. Census documents or in files of State or local governmental agencies. The specific variables of interest in this chapter of the report are the following:

A. Population Structure
  - Total Population
  - Age Breakdown (particularly as related to numbers of children and birth and death rates)
  - Population per Household

B. Population Mobility
  - Net Migration Patterns
  - Proportion of Families in Same Residence

C. Socioeconomic Characteristics
  - Median Family Income
  - Unemployment Rates
  - Proportion of Professional-Technical and Managerial Workers
  - Proportion of Female Heads of Families

D. Housing and Land Use Characteristics
- Proportion of Rental Households
- Proportion of Vacant Residential and Commercial Units
- Extent of Commercial and Industrial Use of Land
- Rates of Demolition and New Construction

It is important to caution the reader that a particular increase or decrease in certain of these variables (whether before or after the event of school closure) does not imply a decline in the overall community structure. In general, one might argue that such an interpretation of decline would be particularly suspect in relation to the A and B variable categories; even in relation to the C and D variables as listed above, one would have to consider trends of the several variables together rather than focus on an increase or decrease in a single variable or indicator.

Data Sources and Methodology

Much of the data relating to the variables listed above comes from either U. S. Census documents (1960 and 1970) or the Polk Profiles (1974). Since both of these sources present data aggregated on a census tract basis, it is important to mention the process used in translating census tract data into school attendance areas and the confidence loss associated with this process. The first step in this process involved the detailed drawing of the school attendance boundaries which existed immediately prior to each closure case and fitting census blocks (subunits of census tracts) to these attendance boundaries. This was done for both closure and non-closure schools in each grouping. Having completed this mapping procedure, it was then possible to make a reasonable estimate (based on the total 1970 population in each census block) of the portion of each census tract to be assigned to the given school attendance area. It was also possible to determine the relative weighting of each census tract within a given school attendance area. Attachment 2A shows the end result of this allocation process for the eleven school areas involved in this study.

For all data concerned with population levels, age structure, family structure, births and deaths, mobility, income, employment, occupation, residential and commercial vacancies, this particular allocation procedure was used. In all cases except the 1974 population totals and 1966-74 births and deaths, the data sources were the 1960 and 1970 Census of Population and Housing and the Polk Profiles for 1974. The total population figures for 1974 were obtained through the City of Seattle, Office of Policy Planning. In the case of births and deaths, the data for all years was obtained on a census tract basis from the Seattle-King County Division of Vital Statistics. Death data was collected only for the 1970-74 period.

Because most of this data is available for only three points in time (1960, 1970, and 1974), it is most useful for looking at longer-term patterns of change in the school neighborhoods rather than impacts immediately following or prior to closure. Later in this chapter of the report and in Chapter 3, we will examine more immediate effect patterns in the neighborhoods under study. In some cases, we will look at these changes not just for the total school attendance area but will examine changes at varying distances from the school location.

The census data used in this chapter of the report are partly complete count and partly sample, but enumeration errors, sampling variability and the school allocation process indicate a confidence of not more than plus-or-minus ten percent around most estimates. This same general lack of confidence probably holds for the Polk Profile data. Because of the questionable quality of data compiled on a school attendance area basis and because of the obvious fact that neighborhoods are constantly changing for reasons completely unrelated to schools (e.g. aging of the population, location relative to shopping areas and industries, etc.), we suggest that any meaningful statistical test of significance of differences is impossible. Instead, we provide in this chapter a graphical and tabular summary, comparing school closure (or threatened closure) areas with the control school area and the City of Seattle, and a brief verbal summary of these comparisons.

Overall Trends in Population and Land Use Variables

We begin this analysis of population and land use trends by examining the total population change between 1970 and 1974 in each of the closure and control areas. We note in Table 2.01 that the change in total population in the closure and control areas is reasonably close except for the Georgetown-Concord case. It is interesting to note that the greater loss rate in the Georgetown area was also observed in the 1960-1970 period (prior to the school closure in 1971). During the 1960-70 decade, Georgetown experienced a 45 percent population loss as compared to a ten percent loss in the Concord neighborhood.

It is of interest to examine this overall rate of population change in the 1970-74 period after controlling for births and deaths occurring in the several school neighborhoods. This comparison begins with the computation of birth and death rates as shown in Table 2.02. Note that a sizable decline in crude birth rate (annual births per thousand of 1970 population) occurred in all school neighborhoods except Concord. The size of the drop in birth rates between the 1966-70 and 1970-74 periods was also quite similar for the closure-control groups, except for the Georgetown-Concord

Table 2.01

Population Change in Closure and Control Areas, 1970-74

School Attendance Area[a]	Total Population[b]		Percent Change
	1970	1974	
Interlake (1971)	6,289	5,825	-7.4
Allen	6,091	5,710	-6.3
Decatur (1974)	3,126	2,986	-4.5
Maple Leaf	4,504	4,320	-4.1
Georgetown (1971)	2,100	1,630	-22.4
Concord	4,444	4,060	-8.6
Mann (1968)	4,263	3,910	-8.3
Minor	6,123	5,375	-12.2
Leschi	4,793	4,415	-7.9
Summit (1965)	17,205	15,255	-11.3
Maple (1971)	4,680	4,300	-8.1
Seattle District[c]	530,800	500,000	-5.8

[a] The Schools are listed here in closure-control groups, except for Maple and Summit which have no non-closure or control group. The year of closure (or threatened closure) is in parentheses following each of the closed schools.

[b] The total population figures come from the U.S. Census (1970) and the City of Seattle, Office of Policy Planning (1974). The census tract populations from these two sources have been allocated in accordance with the percentages of Attachment 2A.

[c] Data are actually for the City of Seattle and exclude two census tracts (263, 264) which are outside the City but partially within the School District boundaries.

Table 2.02

Resident Births and Deaths[a] in Closure and Control Areas

School Attendance Area[b]	Resident Births				Resident Deaths	
	1966-70		1970-74		1970-74	
	Number	Rate[c]	Number	Rate[c]	Number	Rate[c]
Interlake (1971)	451	15.9	300	10.6	302	10.7
Allen	436	15.9	307	11.2	353	12.9
Decatur (1974)	199	14.1	145	10.3	102	7.3
Maple Leaf	302	14.9	226	11.1	113	5.6
Georgetown (1971)	204	21.6	129	13.6	154	16.3
Concord	330	16.5	314	15.7	233	11.7
Mann (1968)	450	23.4	347	18.1	237	12.3
Minor	789	28.6	436	15.8	463	16.8
Leschi	479	22.2	335	15.5	254	11.8
Summit (1965)	1,005	13.0	582	7.5	1,903	24.6
Maple (1971)	342	16.2	260	12.3	199	9.4
Seattle District[d]	39,060	16.3	27,228	11.4	27,035	11.3

[a] The resident births and deaths are based upon census tract allocations of figures obtained from the Seattle-King County Division of Vital Statistics. The 1966-70 births include the births during the four year period 1966-69 and the first 6 months of 1970. Likewise, the 1970-74 births and deaths include the births and deaths during the four year period 1971-74 and the last six months of 1970.

[b] The year of closure (or threatened closure) is in parentheses following each of the closed schools.

[c] The rates are based upon number of occurrences per year per thousand population. The population base is as presented in Table 2.01 for the year 1970.

[d] Data are actually for the City of Seattle and exclude two census tracts (263, 264) which are outside the City but partially within the School District boundaries.

case already mentioned. By computing the excess of births over deaths for 1970-74 in each of the school neighborhoods, we are able to arrive at the net migration figures of Table 2.03. The pattern of net migration across the several schools as shown here is quite close to the population changes of Table 2.01; however, the Interlake-Allen and Summit situations deserve some comment. Note that Summit had an 11.3 percent loss in total population (Table 2.01) and a net migration loss of only 3.7 percent (Table 2.03). This difference is attributed to the larger elderly population in the Summit area and the consequent high death rate. The Interlake-Allen difference in net migration is of particular importance in that it shows that the Interlake area is experiencing a slightly higher negative net migration (-7.3 at Interlake compared to -5.5 at Allen) in the years following school closure. While this difference is relatively small, it is greater than that which existed in Table 2.01 where we were not controlling for the natural increase of births over deaths.

Having examined these recent trends in total population change in the several school neighborhoods, it is appropriate to look in a slightly more detailed way at population and land use variables in each of the closure-control groupings. As a means of presenting this more detailed information, the BSSR study staff has prepared a profile on each of the school groups. These profiles consist of a map, a summary of recent trends in the relevant population and land use variables, and a set of figures illustrating these trends or patterns. The data upon which these school profiles are based is found in Attachment 2B. Following presentation of these school profiles, we will examine information relating to population shifts, construction activity, and residential and commercial occupancy changes within the various school attendance areas.

Table 2.03

Net Migration of Population in Closure and Control Areas, 1970-74

School Attendance Area[a]	Total Population in 1970	Population Change 1970-74		Net Migration in 1970-74[b]	
		Total	Natural[c]	Number	Percent Change[d]
Interlake (1971)	6,289	-464	-2	-462	-7.3
Allen	6,091	-381	-46	-335	-5.5
Decatur (1974)	3,126	-140	+43	-183	-5.9
Maple Leaf	4,504	-184	+113	-297	-6.6
Georgetown (1971)	2,100	-470	-25	-445	-21.2
Concord	4,444	-384	+81	-465	-10.5
Mann (1968)	4,263	-353	+10	-363	-8.5
Minor	6,123	-748	-27	-721	-11.8
Leschi	4,793	-378	+81	-459	-9.6
Summit (1965)	17,205	-1,950	-1,321	-629	-3.7
Maple (1971)	4,680	-380	+61	-441	-9.4
Seattle District[e]	530,800	-30,800	+193	-30,993	-5.8

[a] The year of closure (or threatened closure) is in parentheses following each of the closed schools.

[b] Net migration is simply the total population change between 1970-74 less the natural increase of births over deaths. The time period for this net migration analysis is from April 1, 1970 to approximately July 1, 1974.

[c] The natural increase is the excess of births over deaths for the 1970-74 period.

[d] The percent change as used here refers to the percent change in population after controlling for the balance of births and deaths occurring in the designated area.

[e] Data are actually for the City of Seattle and exclude two census tracts (263, 264) which are outside the City but partially within the School District boundaries.

PROFILES OF SCHOOL NEIGHBORHOODS

Interlake-Allen

Decatur-Maple Leaf

Georgetown-Concord

Mann-Minor-Leschi

Summit-Maple

Notes on Figures Used in School Profiles

1. Different lines have been used for the various closure and control schools. The solid line has been used for Seattle as a whole. Closure schools are represented by dashed lines, while control schools are shown by dotted lines. There is a legend at the top of each page of graphs.

2. In the case of population change (first page of each group of schools), the 1960 population represents a base figure and any changes are related to that base. The actual population figures are presented in Attachment 2B of this report.

3. Death figures have been collected only for the 1970-74 period. Birth figures have been collected for the 1966-74 period. In calculating the birth and death rates for both the City of Seattle and the individual school attendance areas, population figures for 1970 were used. This procedure was used because population estimates for each of the attendance areas for non-census years were unavailable.

4. The school-age populations for 1960 and 1970 are the children in the 6-12 age group as reported in the appropriate census documents. The 1974 school-age population estimates are derived by projecting the children of ages 2-8 in 1970 ahead to 1974. It should be noted that these figures include all children resident to the attendance area and not only those attending the public schools of the area.

5. The percent female heads of households with children 5-17 is listed as "% of families" on Attachment 2B. It is actually the percent of all families having a female head and one or more children under 18.

6. Median family incomes used in the school profiles have not been adjusted for inflation.

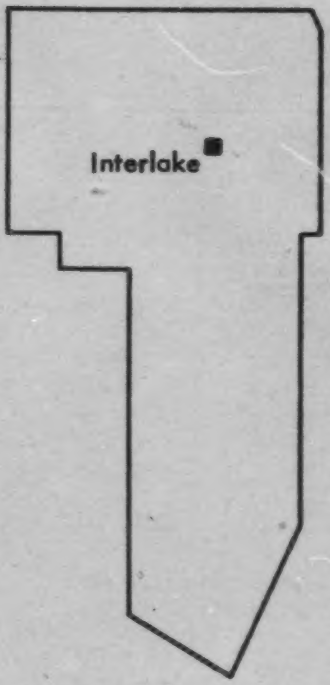
7a. The percent of households with occupancy change is taken from the mobility rate figure on the data tables of Attachment 2B. This mobility rate is from the Polk Profiles and is the total number of residential occupant moves in 1973 as a percent of the total number of residential units in the designated area.

7b. The commercial turnover rate is also taken directly from the Polk Profile and is the number of commercial occupancy changes in 1973 as a percent of the total commercial buildings. This figure is not shown on the data tables in Attachment 2B.

8. The percent of "new" residential units is figured differently for the different years. For 1960 and 1970, it represents the number of units constructed in the preceding ten years as a percent of the total residential units. For 1974, it is based on data from the Polk Profiles and represents five times the number of units constructed in the single year 1973. This arbitrary multiplication of the single-year data by five permits the plotting of a new construction figure for all three years on the same graph.

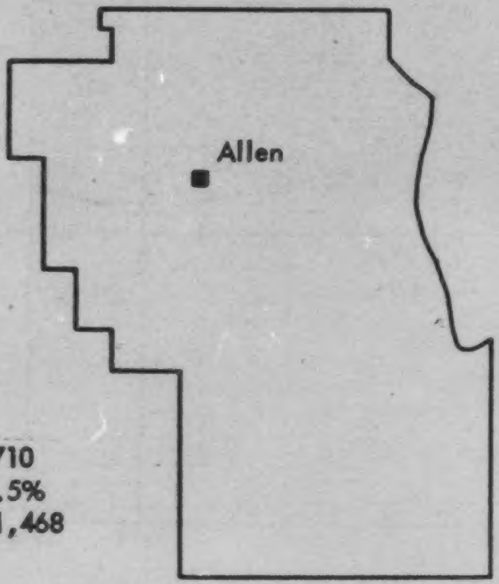
PROFILE 2.01

INTERLAKE - ALLEN
ATTENDANCE AREAS



INTERLAKE....Boundary at time of closure in 1971

Status in 1974:
Total Population.............5,825
Population Under Age 18.....21.0%
Median Family Income.......$11,600

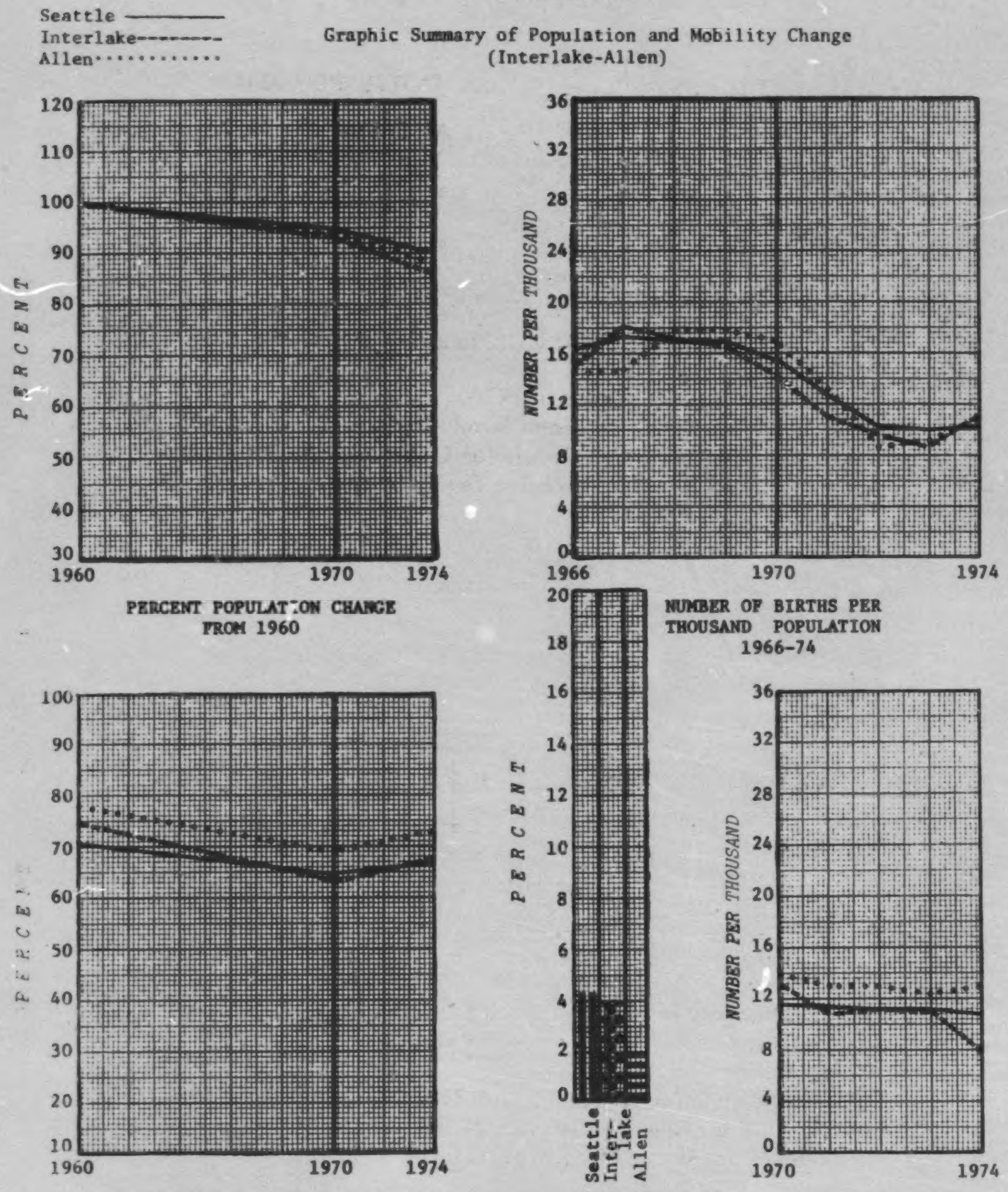


ALLEN....Boundary in 1971 and present

Status in 1974:
Total Population 5,710
Population Under Age 18.....24.5%
Median Family Income.......$11,468

FIGURE 2.01

Graphic Summary of Population and Mobility Change
(Interlake-Allen)



PERCENT POPULATION CHANGE FROM 1960

NUMBER OF BIRTHS PER THOUSAND POPULATION 1966-74

PERCENT TOTAL HOUSEHOLDS WITH FAMILIES

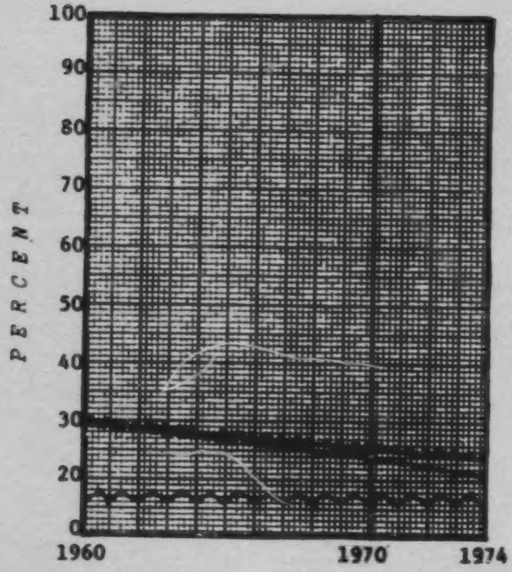
RACIAL CHANGE PERCENT INCREASE MINORITY POPULATION 1960-1970

NUMBER OF DEATHS PER THOUSAND POPULATION 1970-74

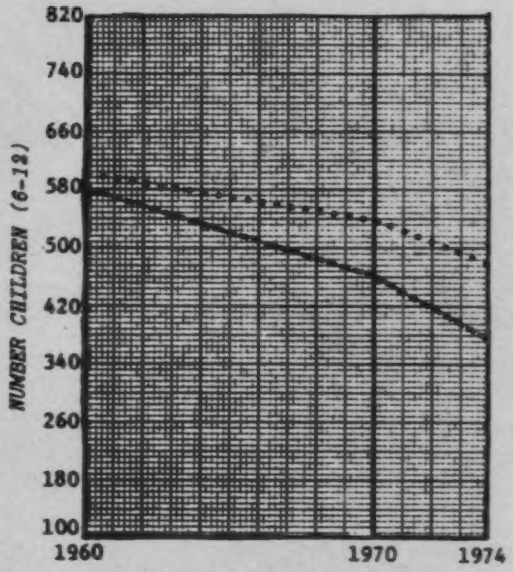
FIGURE 2.01

(Continued, page 2)

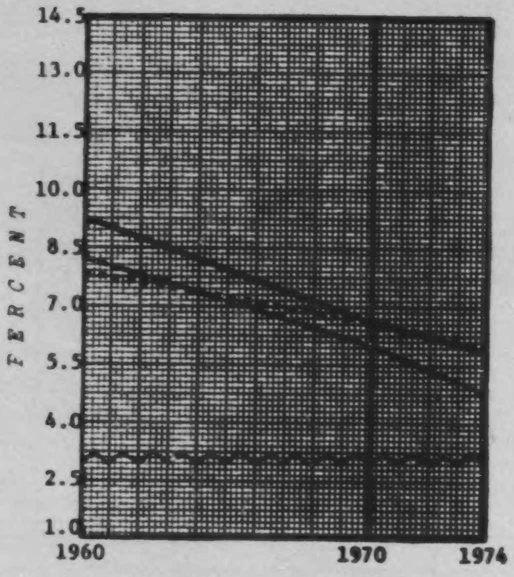
Seattle ————
Interlake--------
Allen············



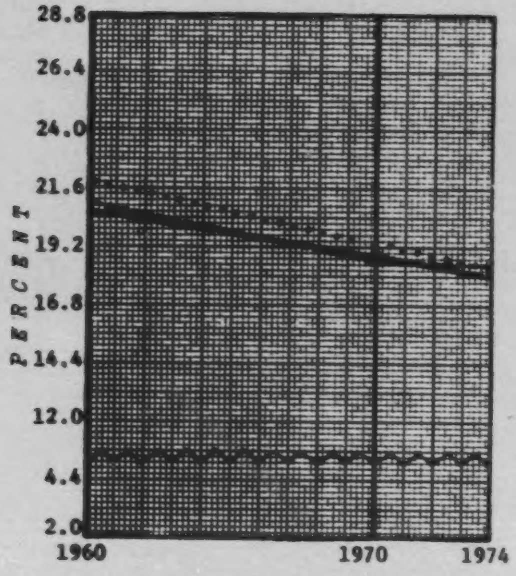
PERCENT POPULATION
LESS THAN 18 YEARS OF AGE



ELEMENTARY SCHOOL AGE
POPULATION (AGES 6-12)



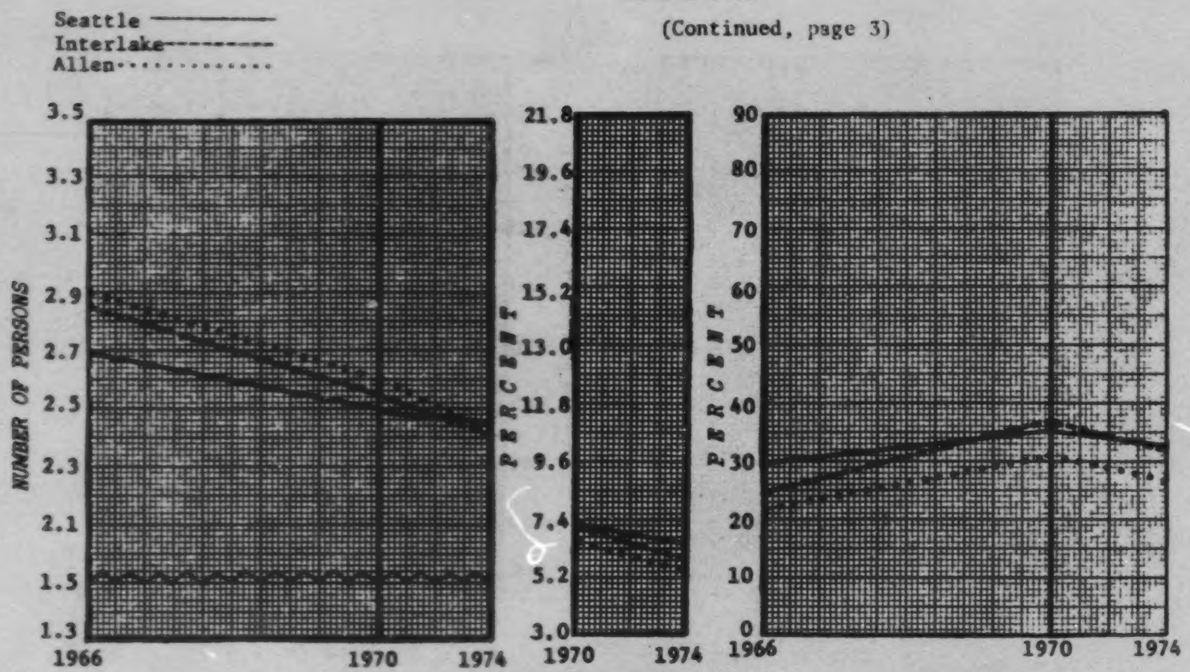
PERCENT POPULATION
LESS THAN 5 YEARS OF AGE



PERCENT POPULATION
5-17 YEARS OF AGE

FIGURE 2.01

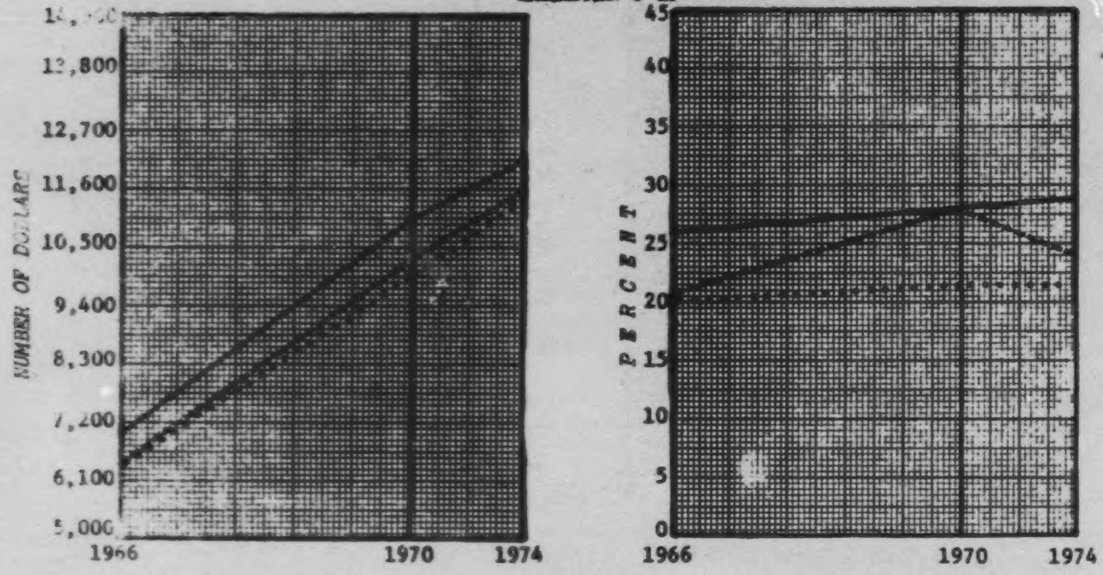
(Continued, page 3)



POPULATION PER HOUSEHOLD

PERCENT FEMALE HEADS OF HOUSEHOLDS WITH CHILDREN 5-17

PERCENT 1-PERSON HOUSEHOLDS

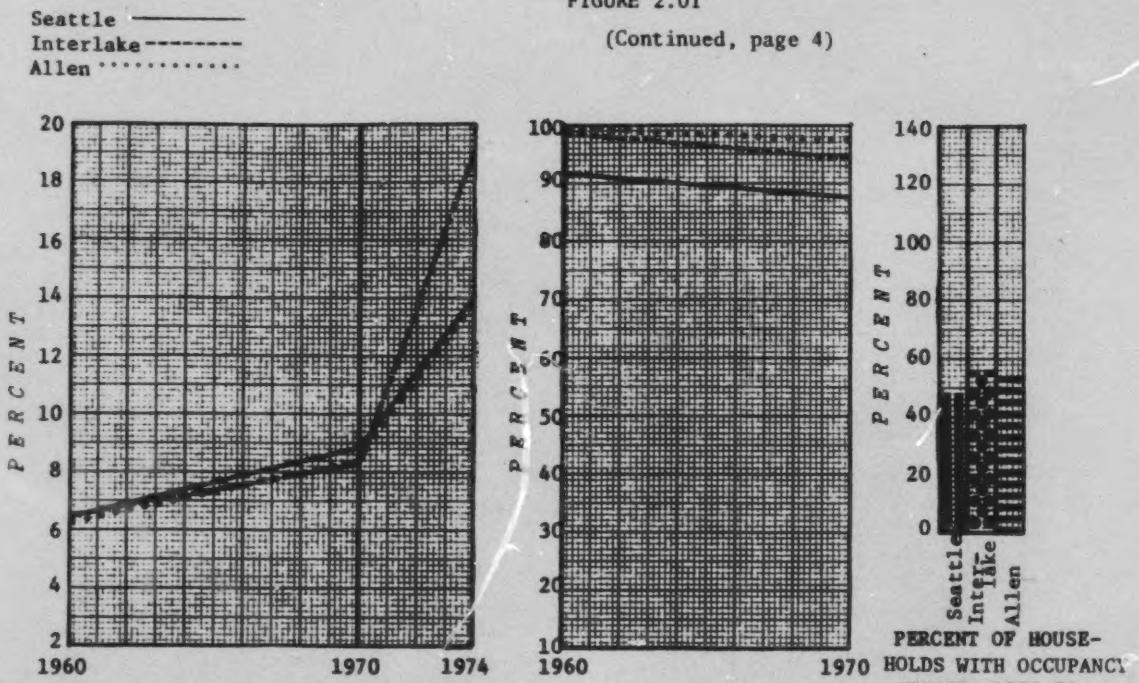


MEDIAN FAMILY INCOME

PERCENT PROFESSIONAL/ TECHNICAL WORKERS

FIGURE 2.01

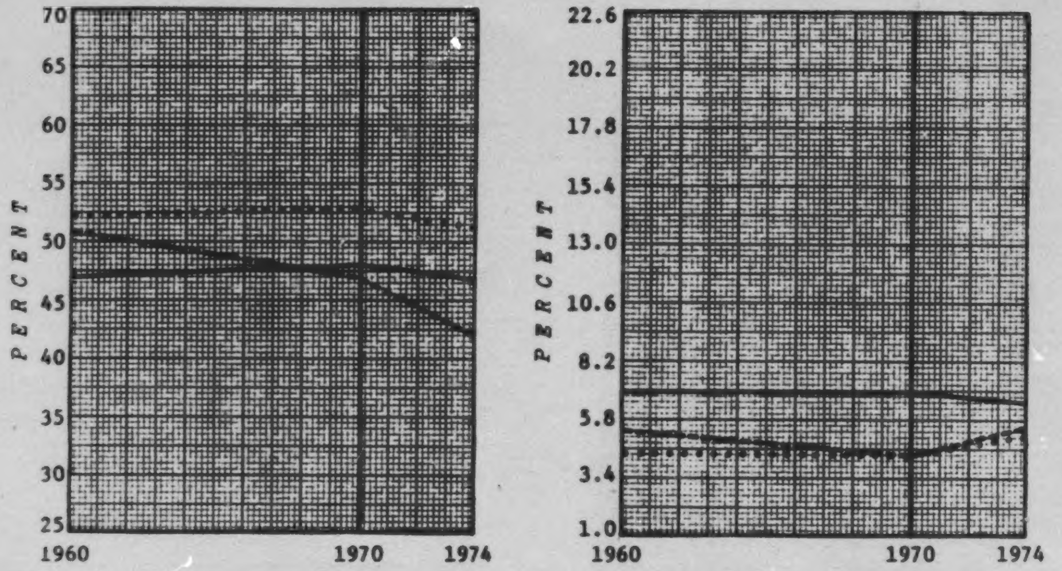
(Continued, page 4)



PERCENT UNEMPLOYED

PERCENT WHITE POPULATION

PERCENT OF HOUSEHOLDS WITH OCCUPANCY CHANGE 1973-74

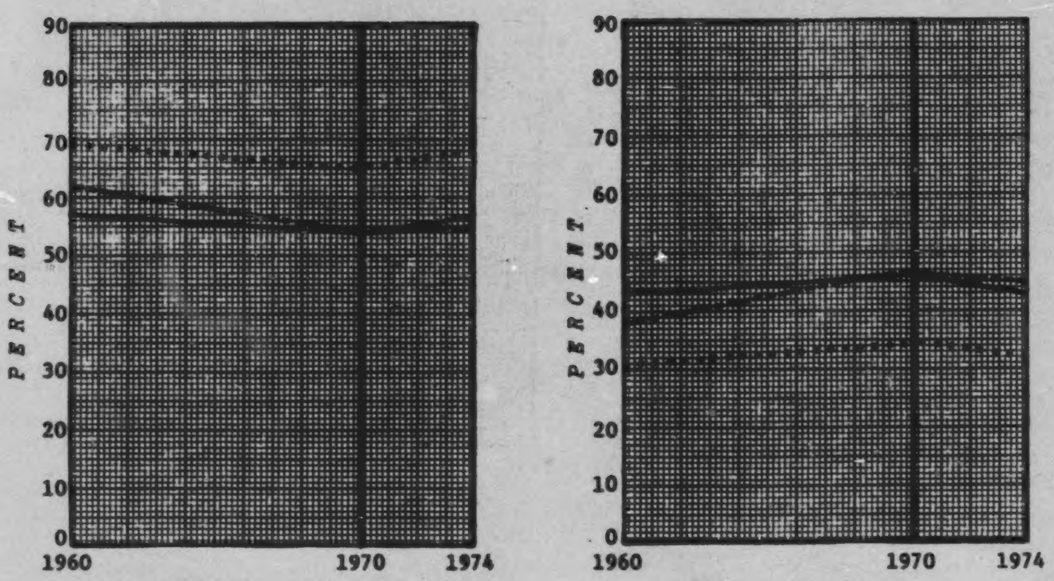


PERCENT IN SAME HOUSE 5 YEARS EARLIER

PERCENT RESIDENTIAL UNITS VACANT

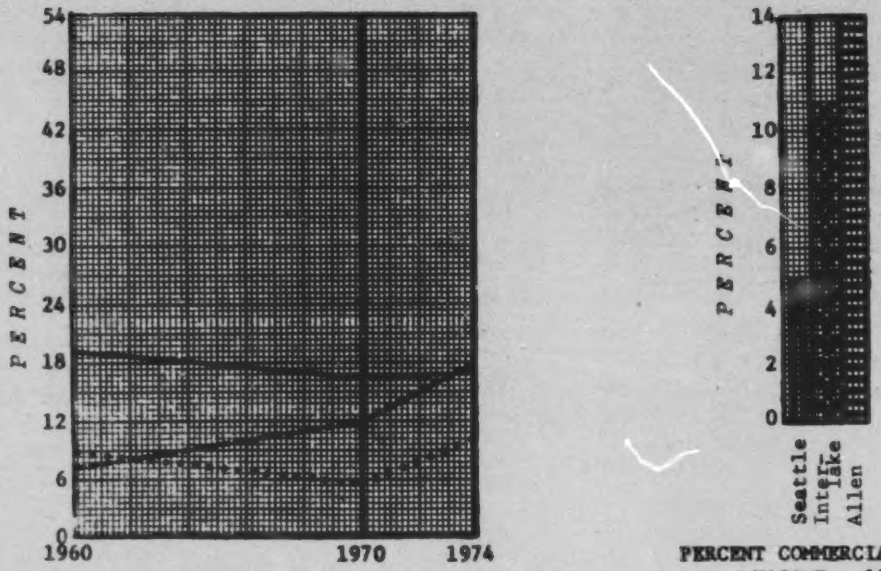
FIGURE 2.01

(Continued, page 5)



PERCENT OWNER-OCCUPIED UNITS

PERCENT RENTER-OCCUPIED UNITS



PERCENT OF RESIDENTIAL UNITS "NEW"

PERCENT COMMERCIAL UNITS VACANT - 1974

Trends in Interlake-Allen

Population Structure---The rate of population change in both attendance areas was much like Seattle's, although the decline in Interlake possibly accelerated slightly since 1970. No significant difference exists between birth and death rates in Interlake and Allen; however, the post-closure net migration (population change after controlling for natural increase of births over deaths) loss in Interlake was slightly higher than in Allen. (See Table 2.03.) Surprisingly, Interlake experienced a surplus of births over deaths in 1974, while Allen did not. Closure has had no apparent effect on decreasing birth rates in Interlake relative to Allen.

Although the percent of population under 18 had already diverged between 1960 and 1970 (Allen's higher than and Interlake's lower than Seattle's), the rate of decline did apparently increase slightly after 1970. So also did the under-five population fall relative to Allen during both the 1960-70 and 1970-74 periods. The drop in school-age population (6-12 years of age) was at a faster rate in Interlake than Allen during the 1960-70 period but was consistent in the two schools during the 1970-74 period. This school enrollment pattern will be analyzed in greater detail in Chapter 3.

The total number of families in the two attendance areas are similar throughout the 1960-74 time period; however, both the number and percent of one-person households are higher and the population per household lower in Interlake. The patterns for these latter variables are parallel.

Population Mobility---As mentioned above, the net loss of population (after controlling for natural increase of births over deaths) was slightly greater in Interlake than in Allen during the 1970-74 period. This is consistent with the higher percentage of occupant moves for Interlake as reflected in the Polk data for 1974. With respect to proportion of families living in the same household five years earlier, Interlake shows a decline relative to Allen between 1960 and 1970; and since 1970, the Polk measure of occupancy change indicates a slight further divergence.

Socioeconomic Characteristics---With respect to income, Interlake improved slightly relative to Allen from 1960-70, while positions were apparently reversed since 1970. This perhaps reflects the decline in the proportion of professional/technical and managerial workers in Interlake and the increased unemployment. These socioeconomic indicators tend to provide some modest support for Hypothesis #1 (the prediction of decline following school closure), though the degree of deterioration appears minimal.

Housing and Land Use Characteristics---Interlake is characterized by a higher proportion of renters than Allen, but this was true even before 1970. The areas differ only slightly with respect to residential and commercial vacancy rates. The slightly higher percentage increase in new residential units for the Interlake area is consistent with its higher mobility rates.

Summary---The Interlake-Allen comparison suggests some support for Hypothesis #1, that closure was followed by rapid change in community structure. This is particularly evident in the relative decline in selected socioeconomic characteristics and the respective rates of population loss during the 1970-74 period. The fact that the data collection points do not coincide with the exact date of closure in 1971 call for some caution relating to this modest support of Hypothesis #1. One simply cannot prove that the changes noted for the 1970-74 period began at the point of school closure in June 1971. In the case of Interlake-Allen, we can say with greater certainty that there is little evidence for Hypothesis #2--that prior change in the community laid a basis for the school closure.

PROFILE 2.02

DECATUR – MAPLE LEAF
ATTENDANCE AREAS

DECATUR....Boundary at time of threatened closure in 1974

Status in 1974:

Total Population.............	2,986
Population Under Age 18.....	29.0%
Median Family Income.......	$14,500

MAPLE LEAF....Boundury in 1974

Status in 1974:

Total Population.............	4,320
Population Under Age 18.....	31.5%
Median Family Income.......	$14,825

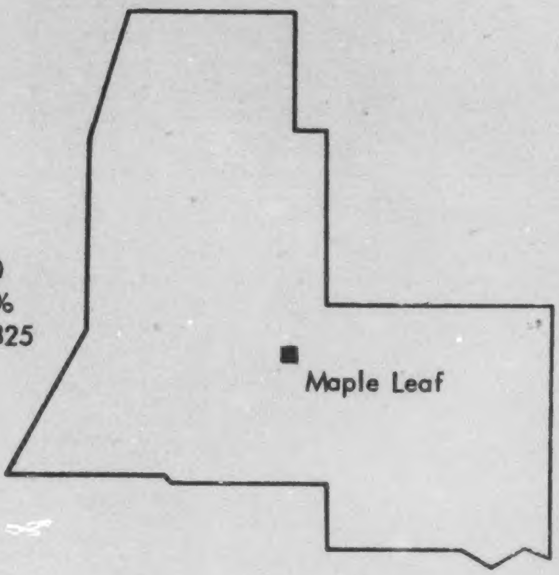
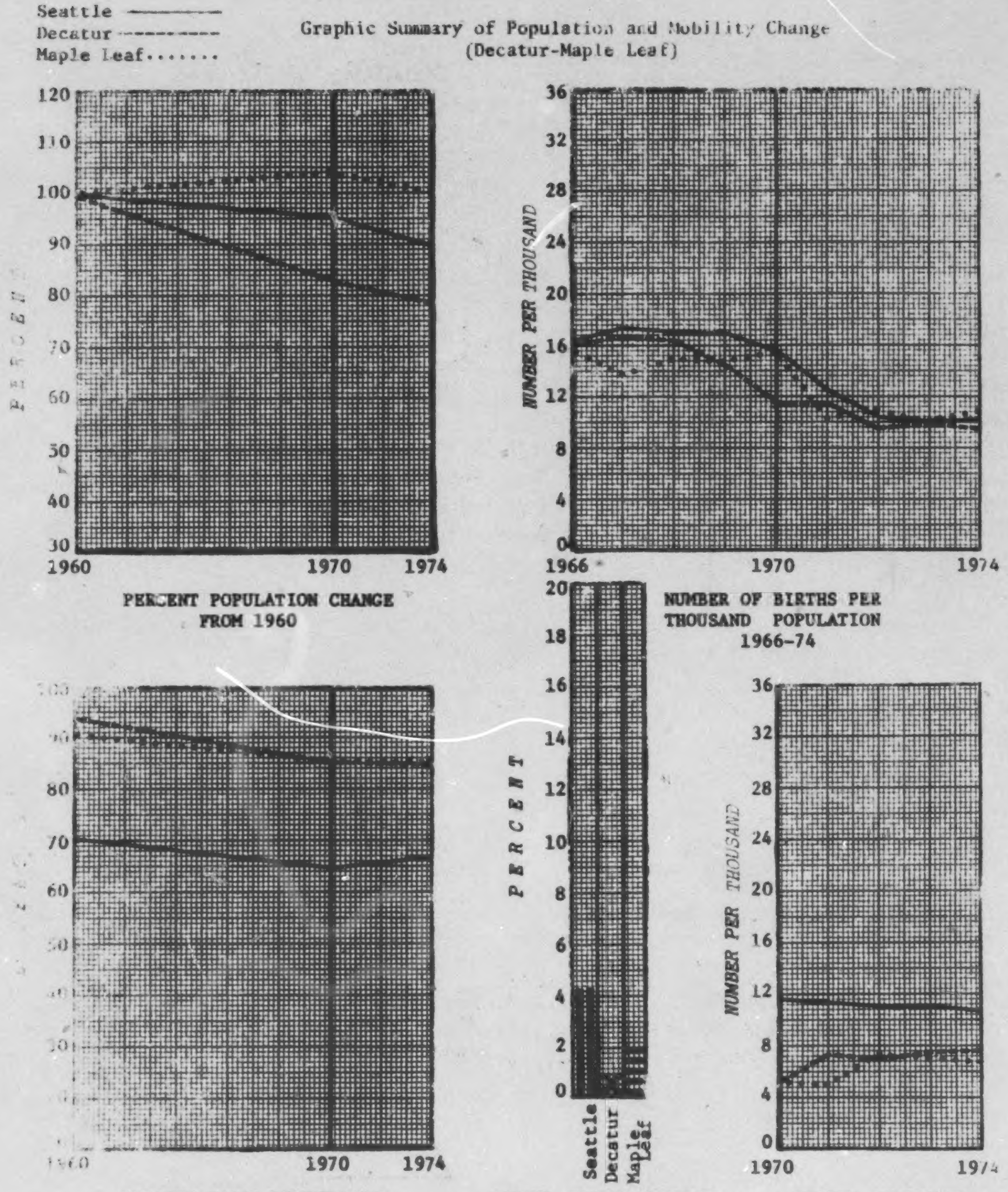


FIGURE 2.02

Graphic Summary of Population and Mobility Change
(Decatur-Maple Leaf)



PERCENT POPULATION CHANGE FROM 1960

NUMBER OF BIRTHS PER THOUSAND POPULATION 1966-74

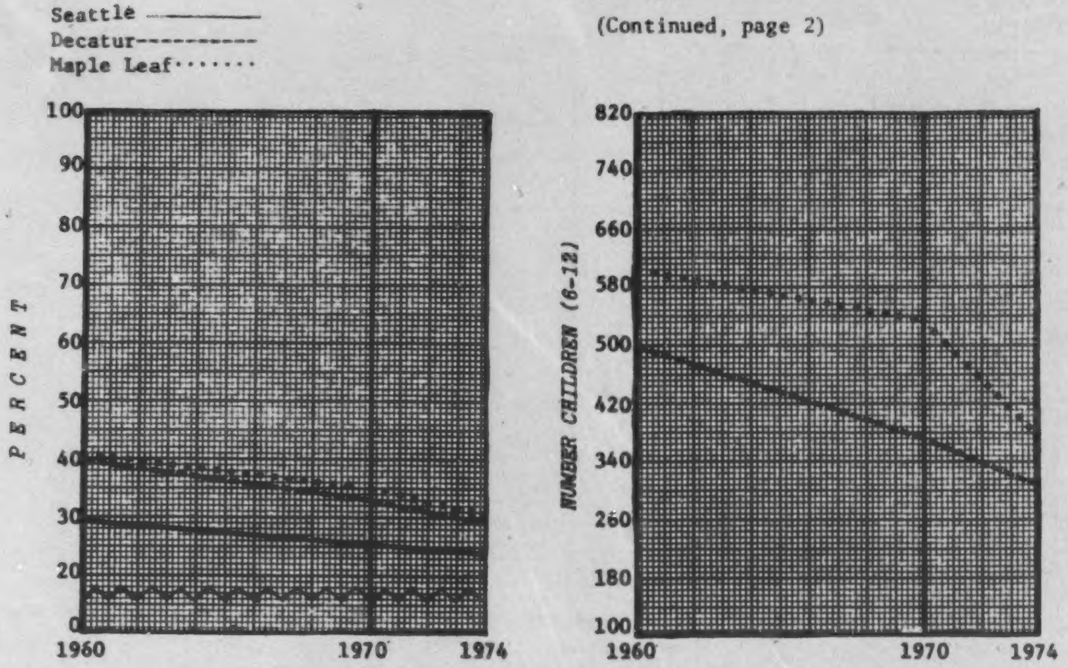
PERCENT TOTAL HOUSEHOLDS WITH FAMILIES

RACIAL CHANGE PERCENT INCREASE MINORITY POPULATION 1960-1970

NUMBER OF DEATHS PER THOUSAND POPULATION 1970-74

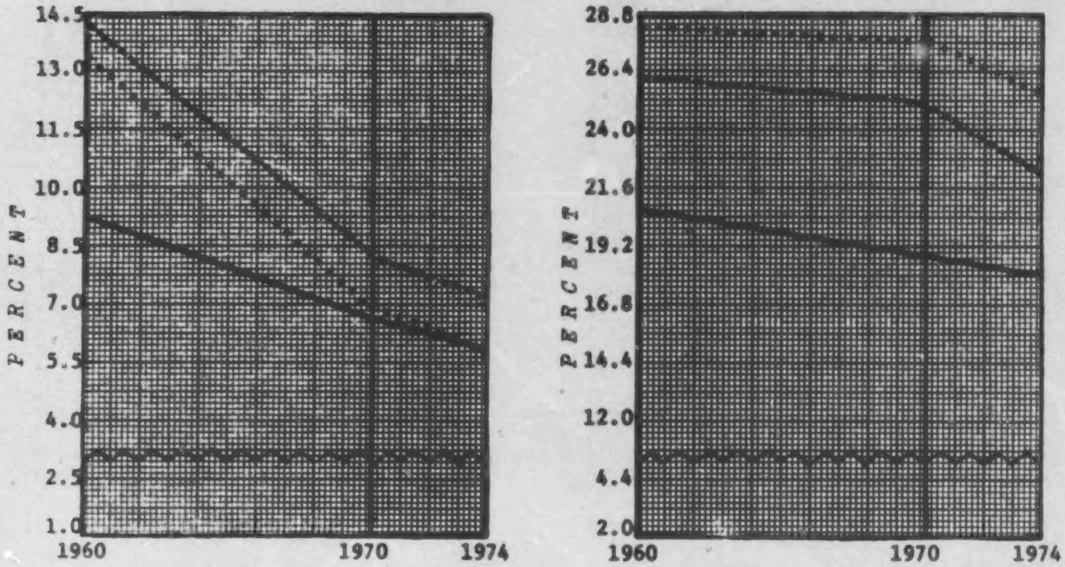
FIGURE 2.02

(Continued, page 2)



PERCENT POPULATION LESS THAN 18 YEARS OF AGE

ELEMENTARY SCHOOL AGE POPULATION (AGES 6-12)



PERCENT POPULATION LESS THAN 5 YEARS OF AGE

PERCENT POPULATION 5-17 YEARS OF AGE

FIGURE 2.02

(Continued, page 3)

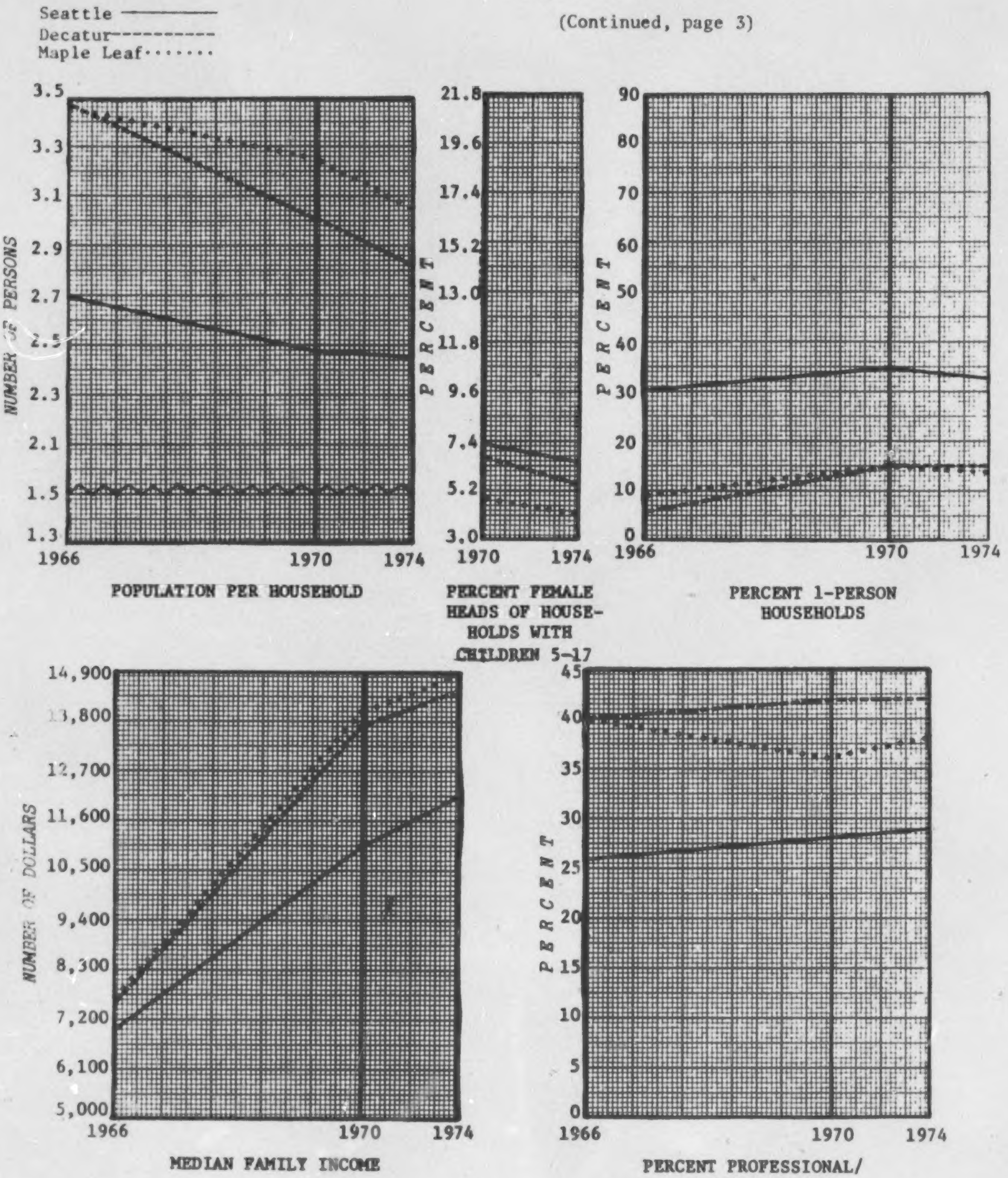
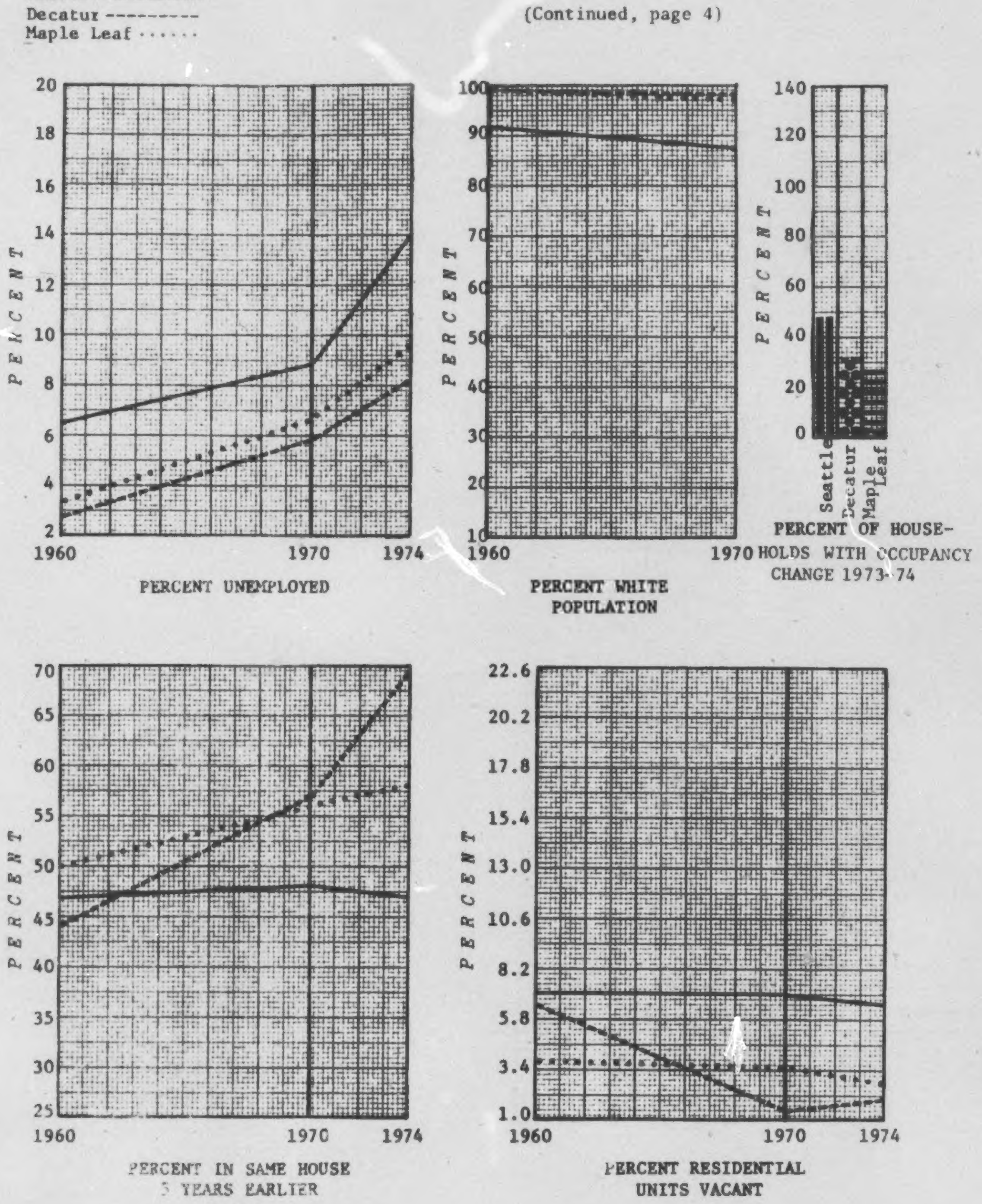


FIGURE 2.02

(Continued, page 4)



PERCENT UNEMPLOYED

PERCENT WHITE POPULATION

PERCENT OF HOUSEHOLDS WITH OCCUPANCY CHANGE 1973-74

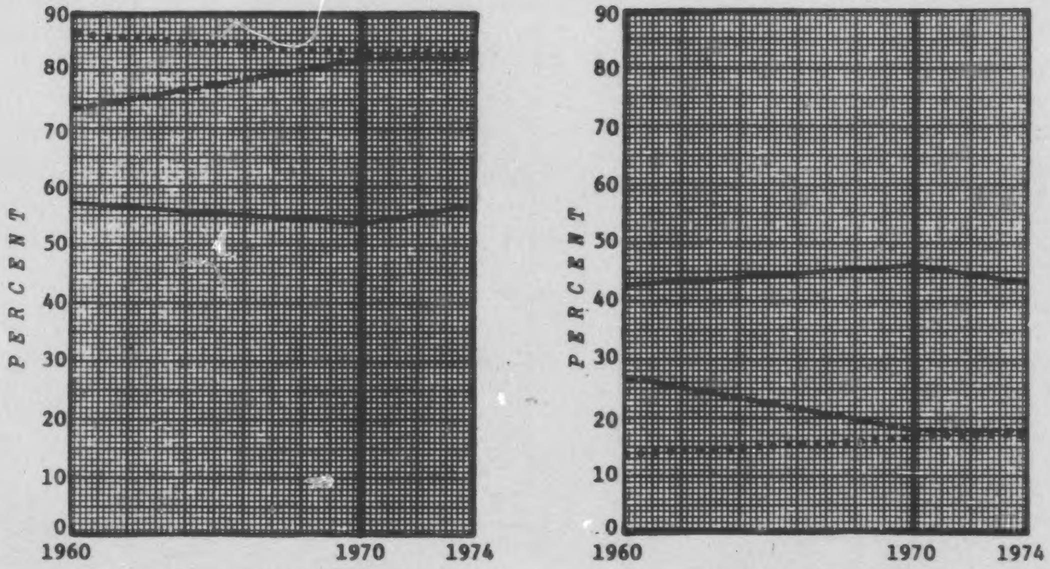
PERCENT IN SAME HOUSE 5 YEARS EARLIER

PERCENT RESIDENTIAL UNITS VACANT

FIGURE 2.02

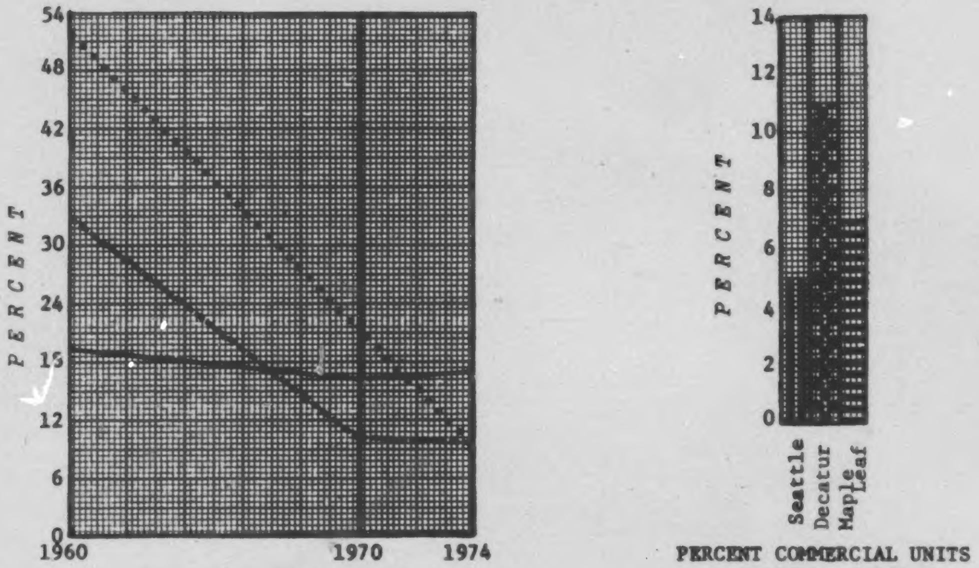
(Continued, page 5)

Seattle ————
Decatur----------
Maple Leaf·······



PERCENT OWNER-OCCUPIED UNITS

PERCENT RENTER-OCCUPIED UNITS



PERCENT OF RESIDENTIAL UNITS "NEW"

PERCENT COMMERCIAL UNITS VACANT - 1974

Trends in Decatur-Maple Leaf

Population Structure---Maple Leaf, a somewhat "suburban" location, was gaining in population and housing from 1960-70, while Decatur was losing, primarily because of the closure of Navy rental housing. Since 1970 the population in both areas has declined slightly, similar to the situation in Seattle. Maple Leaf enjoys a greater margin of births over deaths. The threat of closure resulted in no apparent divergence in this pattern; however, only one-half of the 1974 births and deaths are allocated to the post-closure (or post-threatened-closure) period.

Age structure, the proportion of one-person households, and population per household were very similar from 1960-1970 and have remained so since 1970. Since 1970, there has been a slight tendency toward convergence in the school-age population of the two school areas.

Population Mobility---The mobility experience in the two attendance areas also is similar, with mobility rates lower than the Seattle average. With respect to the proportion of families living in the same household five years earlier, Maple Leaf was more stable between 1960 and 1970. However, since 1970 Decatur has tended to become more stable than Maple Leaf. This tendency, however, is not supported by the recent Polk estimates which indicate that Decatur had a slightly higher occupancy change rate than Maple Leaf in 1974.

Socioeconomic Characteristics---Decatur and Maple Leaf are virtually indistinguishable with respect to median family income, unemployment, and proportion in professional/technical and managerial occupations. Furthermore, they are much more like each other than the City as a whole.

Housing and Land Use Characteristics---The decline in population of Decatur as a result of closure of Navy housing led to a convergence between Maple Leaf and Decatur with respect to residential ownership and vacancy rates. So also is there a recent convergence in the percent of new residential units in the two areas.

Summary---No consistent pattern of difference is discernable since 1970 between Decatur and Maple Leaf. A comparison of the patterns lends no support to either hypothesis; however, the only data relating to the post-closure period is the births and deaths. At least, in this one case, the threat of closure was without apparent effect (lending no support to Hypothesis #1).

Data for the several variables during the 1960-74 period does not support Hypothesis #2 (that the threatened closure was the result of a prior change in population and land use). In fact, the pattern of socioeconomic change prior to the threat of closure was no worse in Decatur than in Maple Leaf, and is either parallel to or more favorable than the Seattle average values.

PROFILE 2.03

GEORGETOWN – CONCORD ATTENDANCE AREAS

Georgetown

GEORGETOWN.... Boundary at time of closure in 1971

Status in 1974:

Total Population	1,630
Population Under Age 18	19.0%
Median Family Income	$10,370

CONCORD.... Boundary in 1971 and present

Status in 1974:

Total Population	4,060
Population Under Age 18	26.0%
Median Family Income	$11,080

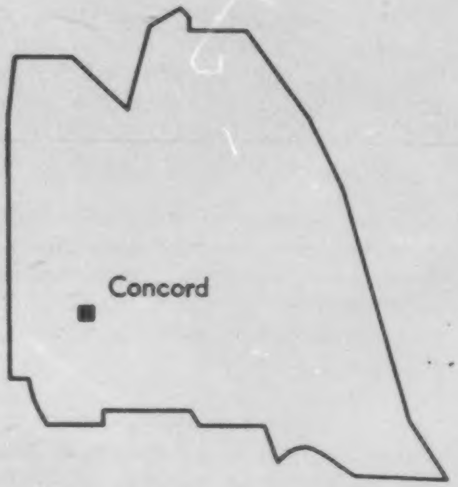
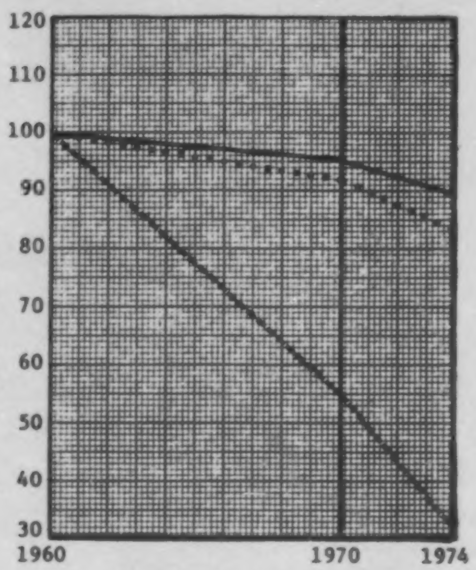


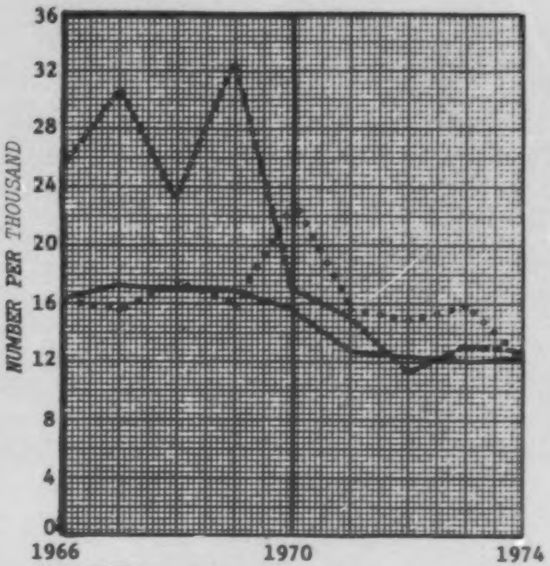
FIGURE 2.03

Graphic Summary of Population and Mobility Change
(Georgetown-Concord)

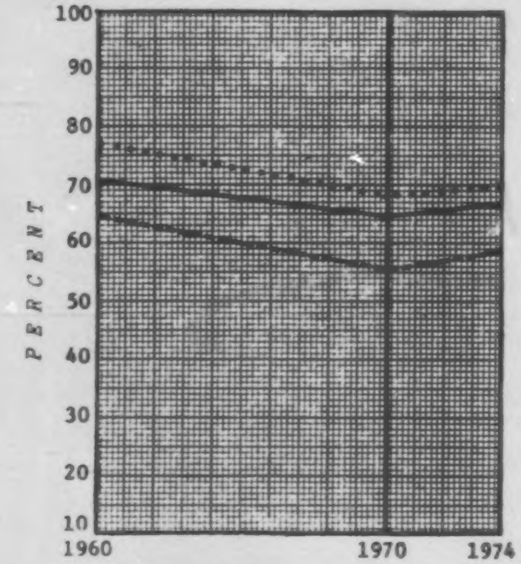
Seattle ————
Georgetown -------
Concord ··········



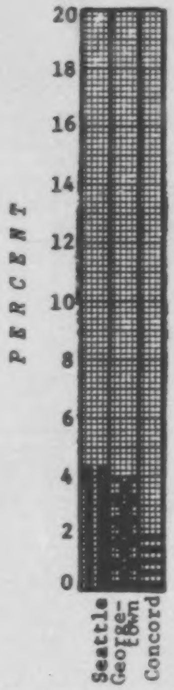
PERCENT POPULATION CHANGE
FROM 1960



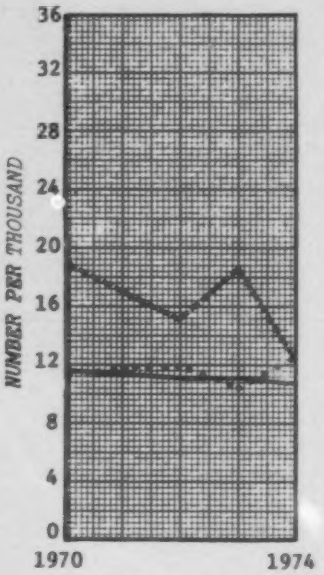
NUMBER OF BIRTHS PER
THOUSAND POPULATION
1966-74



PERCENT TOTAL HOUSEHOLDS
WITH FAMILIES



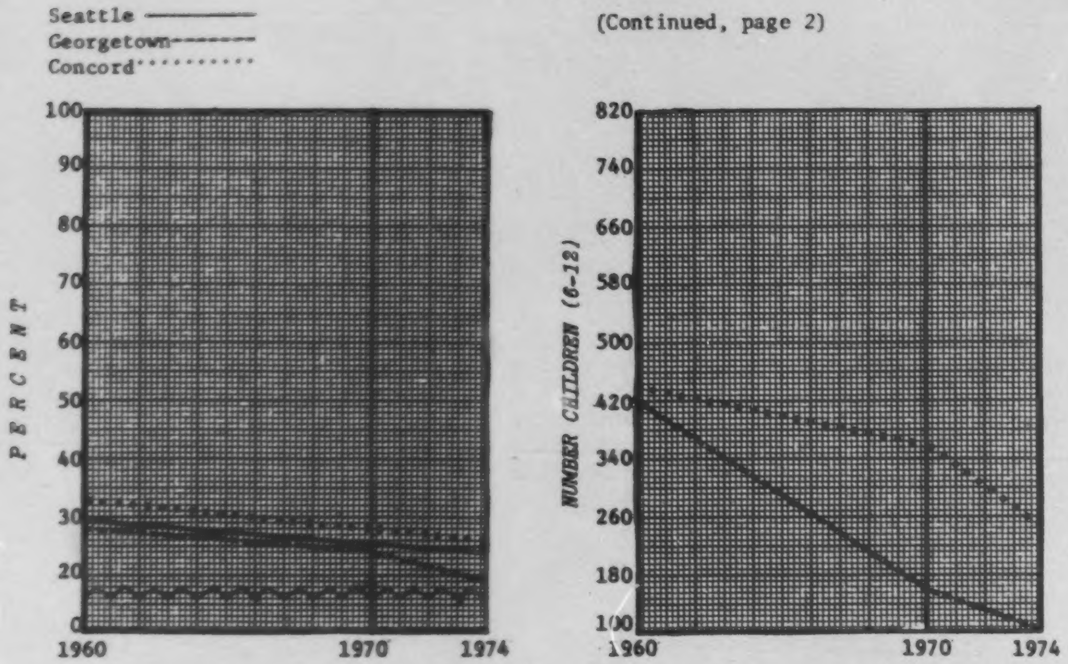
RACIAL CHANGE PERCENT
INCREASE MINORITY
POPULATION 1960-1970



NUMBER OF DEATHS
PER THOUSAND
POPULATION 1970-74

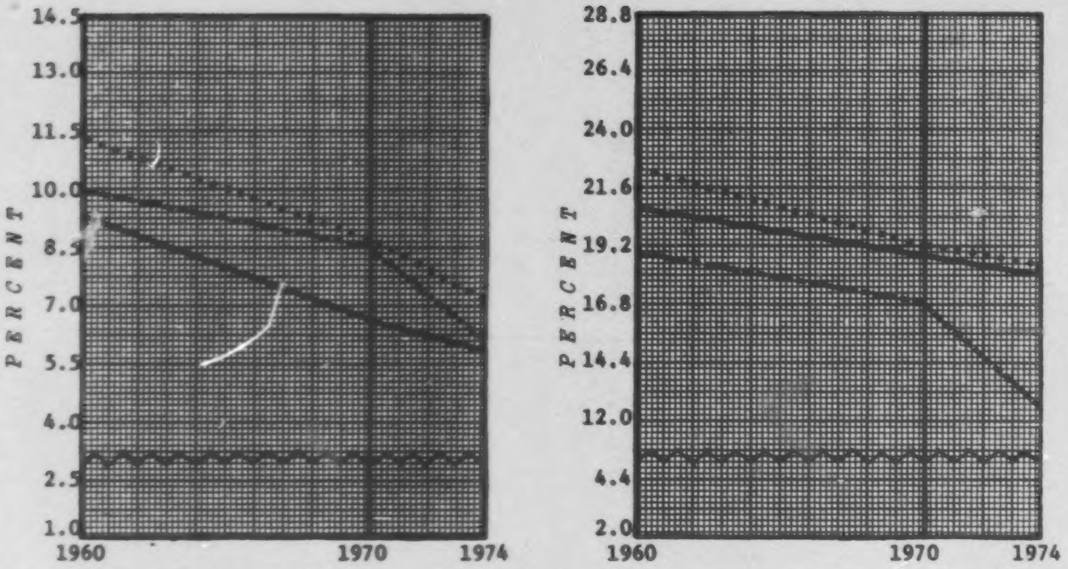
FIGURE 2.03

(Continued, page 2)



PERCENT POPULATION LESS THAN 18 YEARS OF AGE

ELEMENTARY SCHOOL AGE POPULATION (AGES 6-12)

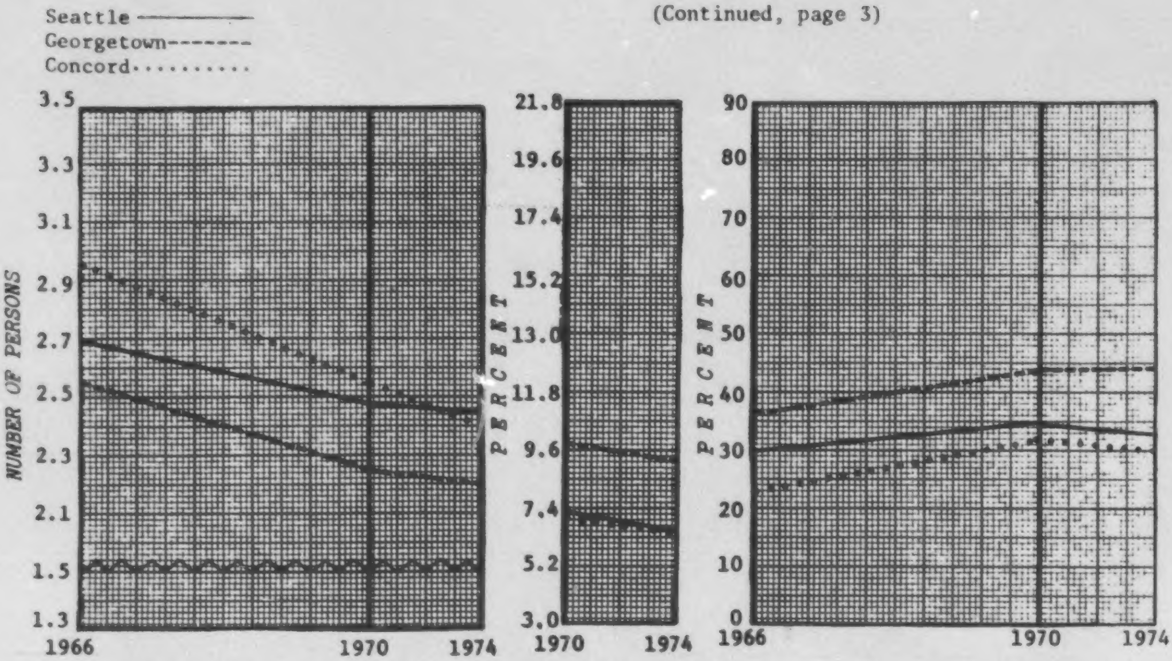


PERCENT POPULATION LESS THAN 5 YEARS OF AGE

PERCENT POPULATION 5-17 YEARS OF AGE

FIGURE 2.03

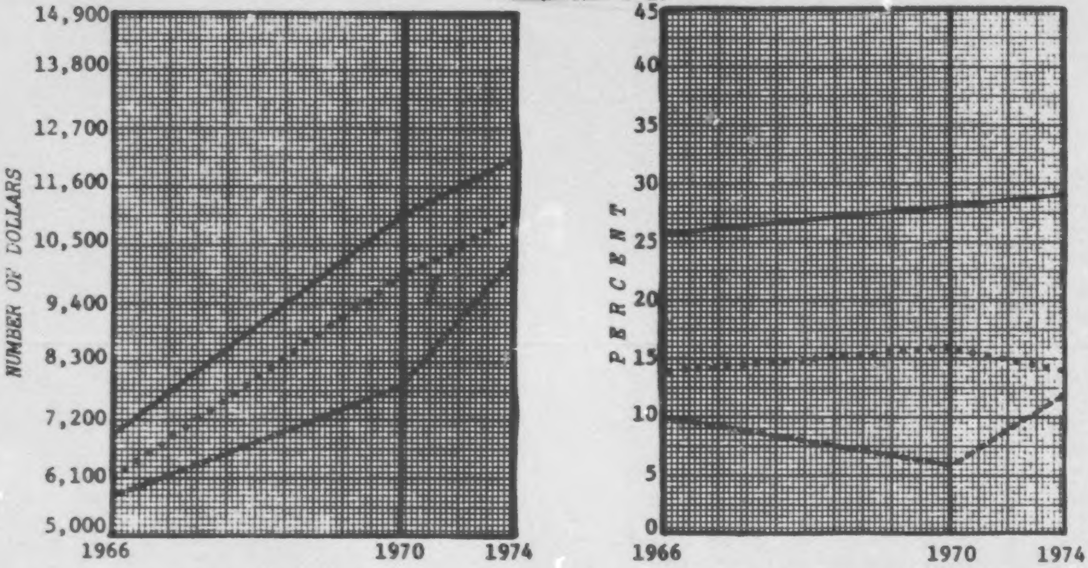
(Continued, page 3)



POPULATION PER HOUSEHOLD

PERCENT FEMALE HEADS OF HOUSEHOLDS WITH CHILDREN 5-17

PERCENT 1-PERSON HOUSEHOLDS

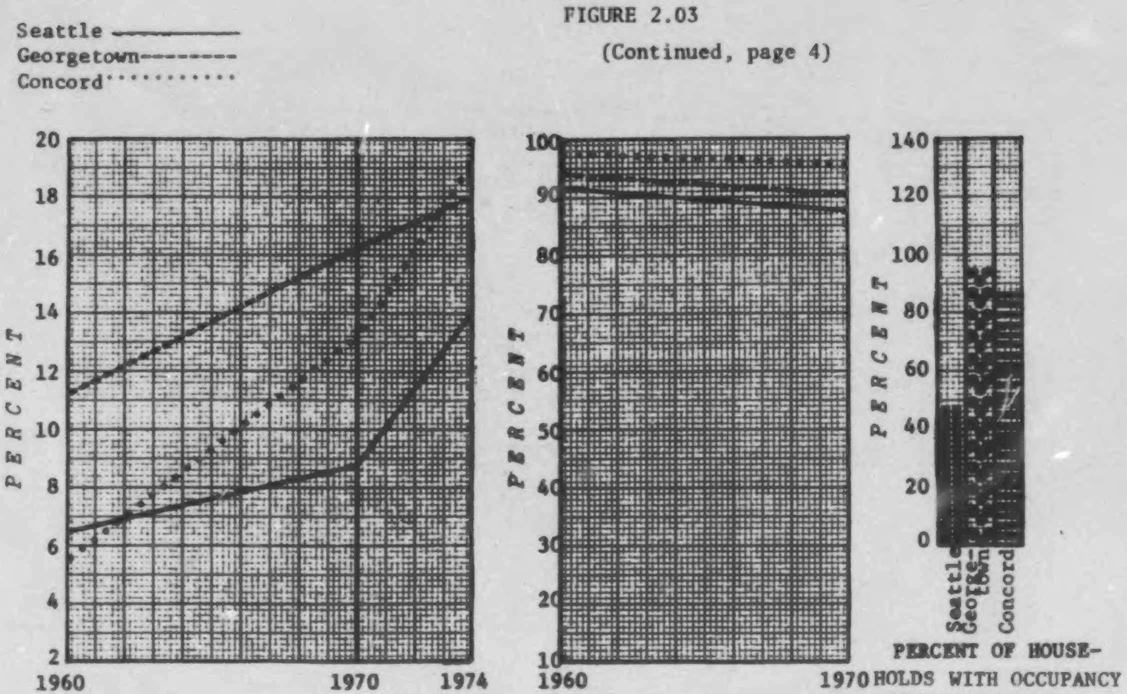


MEDIAN FAMILY INCOME

PERCENT PROFESSIONAL/ TECHNICAL WORKERS

FIGURE 2.03

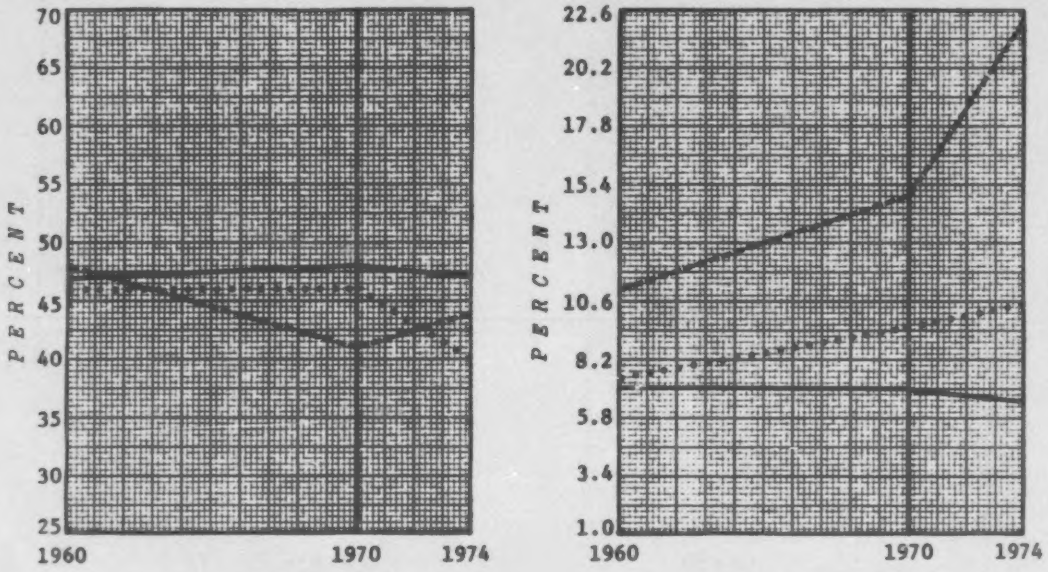
(Continued, page 4)



PERCENT UNEMPLOYED

PERCENT WHITE POPULATION

PERCENT OF HOUSEHOLDS WITH OCCUPANCY CHANGE 1973-74

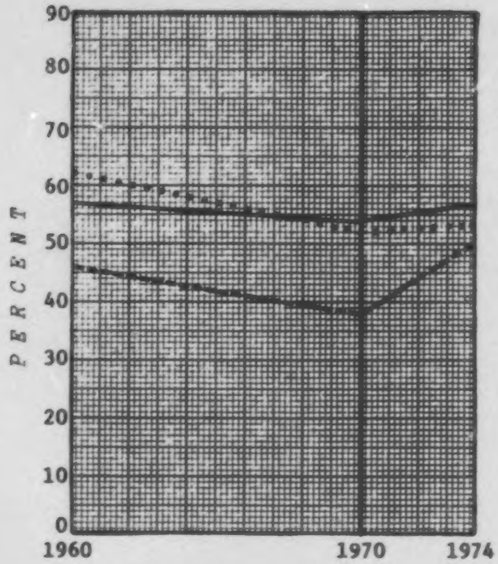


PERCENT IN SAME HOUSE 5 YEARS EARLIER

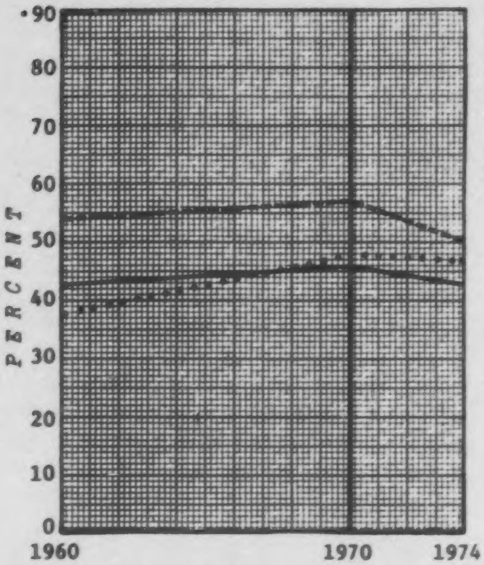
PERCENT RESIDENTIAL UNITS VACANT

FIGURE 2.03

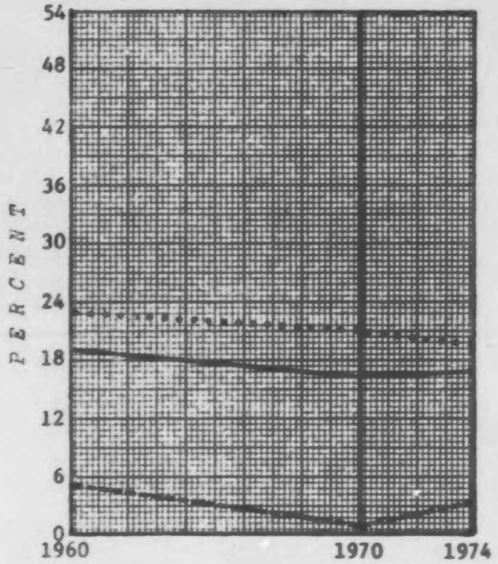
(Continued, page 5)



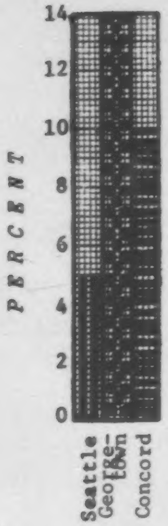
PERCENT OWNER-OCCUPIED UNITS



PERCENT RENTER-OCCUPIED UNITS



PERCENT OF RESIDENTIAL UNITS "NEW"



PERCENT COMMERCIAL UNITS VACANT - 1974

Trends in Georgetown-Concord

Population Structure---While Concord's profile was very similar to the Seattle average throughout the whole period, in the case of Georgetown the population fell drastically from 1960 through 1970. A sudded decline in the birth rate occurred in Georgetown in 1970 and, in fact, deaths have exceeded births in every year since 1970. Concord, however, experienced a surplus of births over deaths during this same period. It is of interest that an increase in the birth rate in Concord coincided with a sharp decrease in the birth rate in nearby Georgetown. Possibly land use change, and perhaps the imminence of closure, led some Georgetown families to move to the Concord area.

The drastic decline in the population of Georgetown during this period (1960-74)--reflected in a decrease in the total population and in the population in various age groups--was also accompanied by a reduction in the proportion of the population less than 18 years of age. Indeed, this rate of decline appears to have increased slightly since 1970.

Georgetown has experienced a decrease in both the number of families and in the number of one-person households. However, as a percentage of the total households, the proportion of one-person households has actually increased. This trend also is reflected in a reduction in the population per household, which is considerably lower than the average for the City as a whole.

Population Mobility---The tremendous loss of population in Georgetown corresponds with mobility rates much higher than either Concord or Seattle. According to the Polk study, the 1974 occupancy change rate for Georgetown was twice that of Seattle. However, a comparison of the proportion of the families living in the same house five years earlier indicates that although Georgetown's relative stability fell between 1960 and 1970, some improvement is indicated since 1970.

Socioeconomic Characteristics---Between 1960 and 1970, Georgetown deteriorated relative to Concord and Seattle with respect to income, professional/technical and managerial employment, and unemployment (supporting Hypothesis #2). Since 1970, conditions for the smaller remaining population have apparently improved (contradicting Hypothesis #1).

Housing and Land Use Characteristics---Reflecting population decline, Georgetown's vacancy rates, residential and commercial are high and appear to have increased in recent years. Although the percentage of owner-occupied units in Georgetown is considerably lower than both Concord and Seattle, a stabilization in home ownership appears to have occurred since 1970.

Summary---Hypothesis #2, that prior population and land use change accounts for the event of closure, is supported in the case of Georgetown. Total population declined drastically between 1960 and 1970, but the decline was particularly apparent among young children. (There was a considerable reduction in the proportion of the population under 18 years of age.) A comparison of socioeconomic characteristics further supports this hypothesis. However, the nature of the area had become unsupportive of schools, and closure resulted in no noticeable deterioration relative to Concord in the post-closure period.

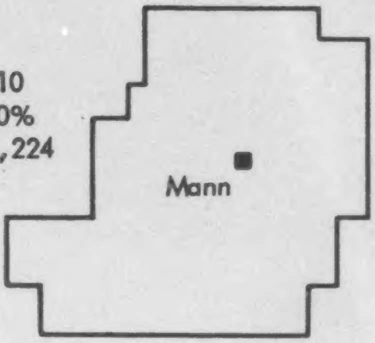
PROFILE 2.04

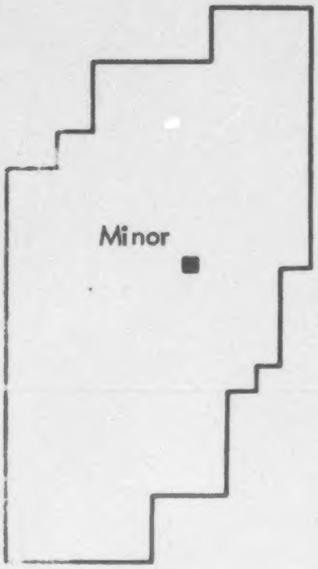
MANN - MINOR - LESCHI
ATTENDANCE AREAS

MANN....Boundary at time of closure in 1968

Status in 1974:

Total Population	3,910
Population Under Age 18	33.0%
Median Family Income	$11,224

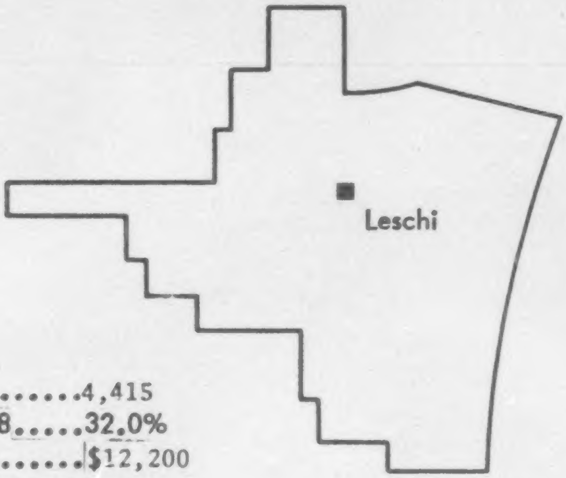




MINOR....Boundary in 1968

Status in 1974:

Total Population	5,375
Population Under Age 18	18.0%
Median Family Income	$10,500



LESCHI....Boundary in 1968

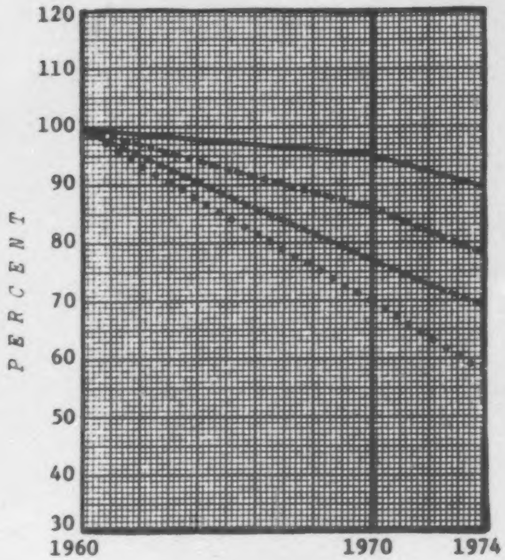
Status in 1974:

Total Population	4,415
Population Under Age 18	32.0%
Median Family Income	$12,200

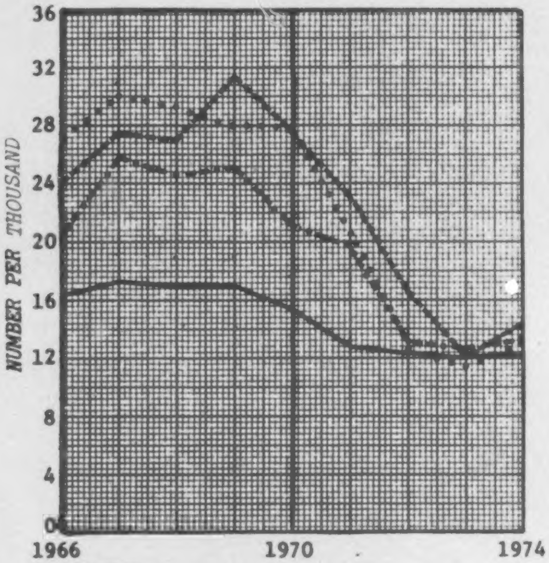
FIGURE 2.04

Graphic Summary of Population and Mobility Change (Mann-Minor-Leschi)

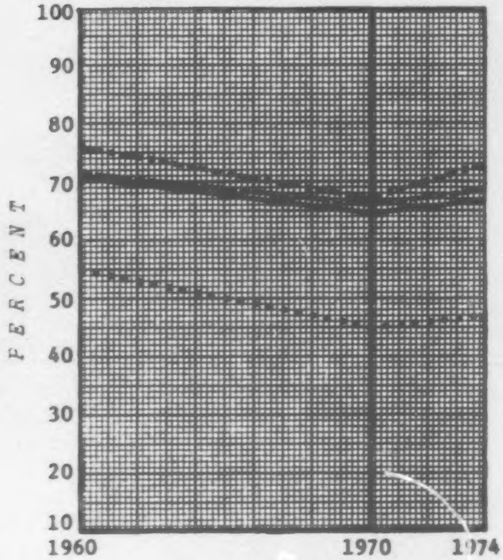
Seattle ————————
Mann- - - - - - - - - - - - -
Minor············
Leschi--·--·--·--



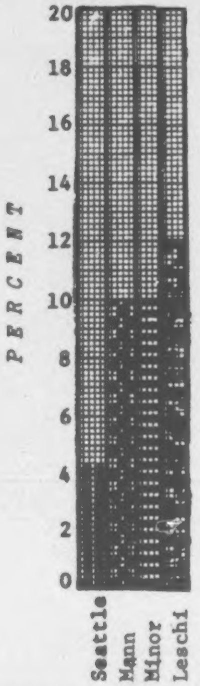
PERCENT POPULATION CHANGE FROM 1960



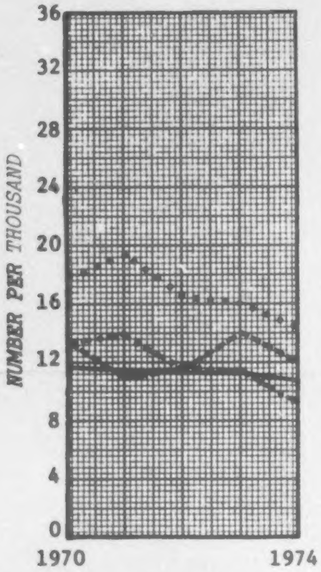
NUMBER OF BIRTHS PER THOUSAND POPULATION 1966-74



PERCENT TOTAL HOUSEHOLDS WITH FAMILIES



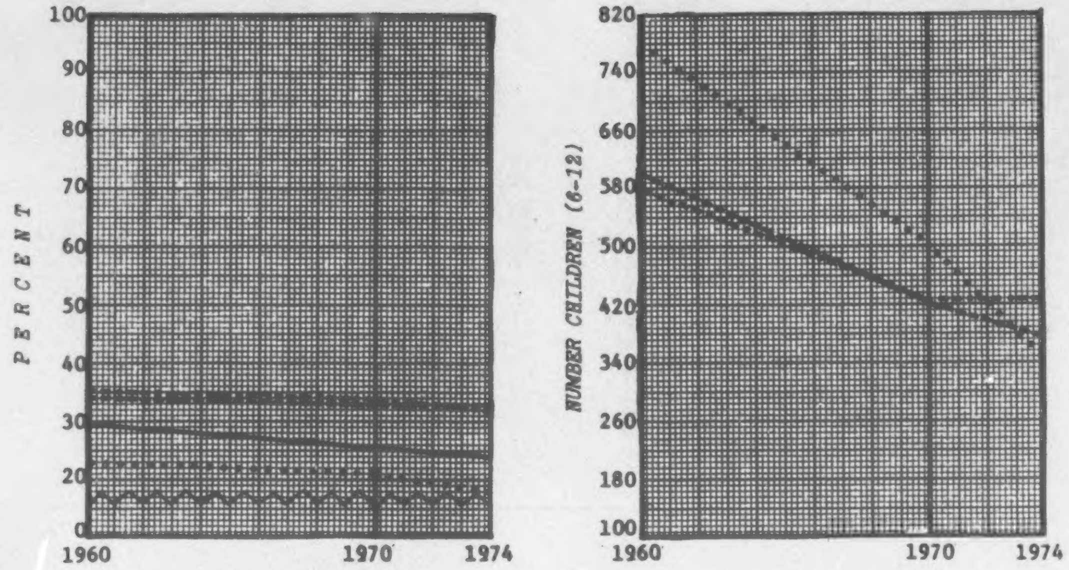
RACIAL CHANGE PERCENT INCREASE MINORITY POPULATION 1960-1970



NUMBER OF DEATHS PER THOUSAND POPULATION 1970-74

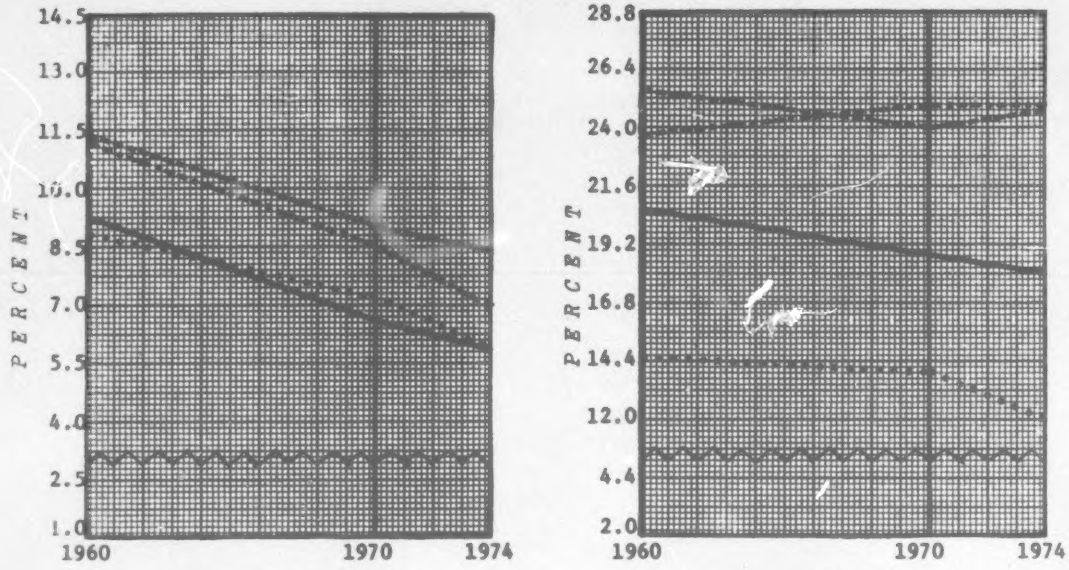
FIGURE 2.04

(Continued, page 2)



PERCENT POPULATION LESS THAN 18 YEARS OF AGE

ELEMENTARY SCHOOL AGE POPULATION (AGES 6-12)

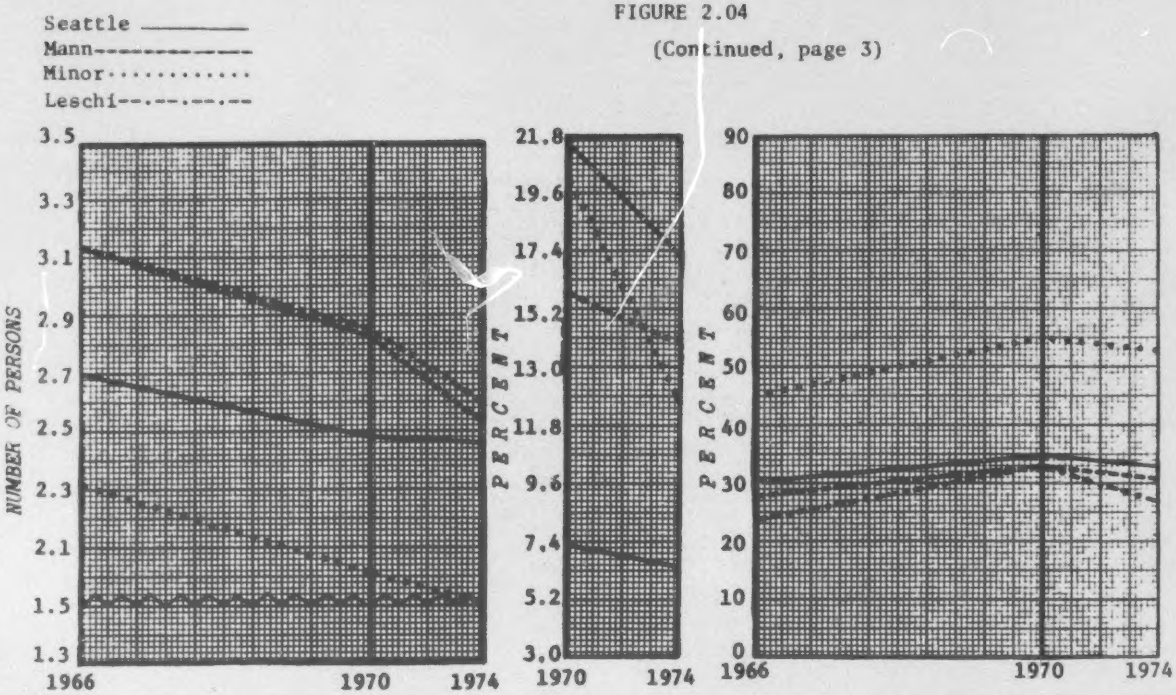


PERCENT POPULATION LESS THAN 5 YEARS OF AGE

PERCENT POPULATION 5-17 YEARS OF AGE

FIGURE 2.04

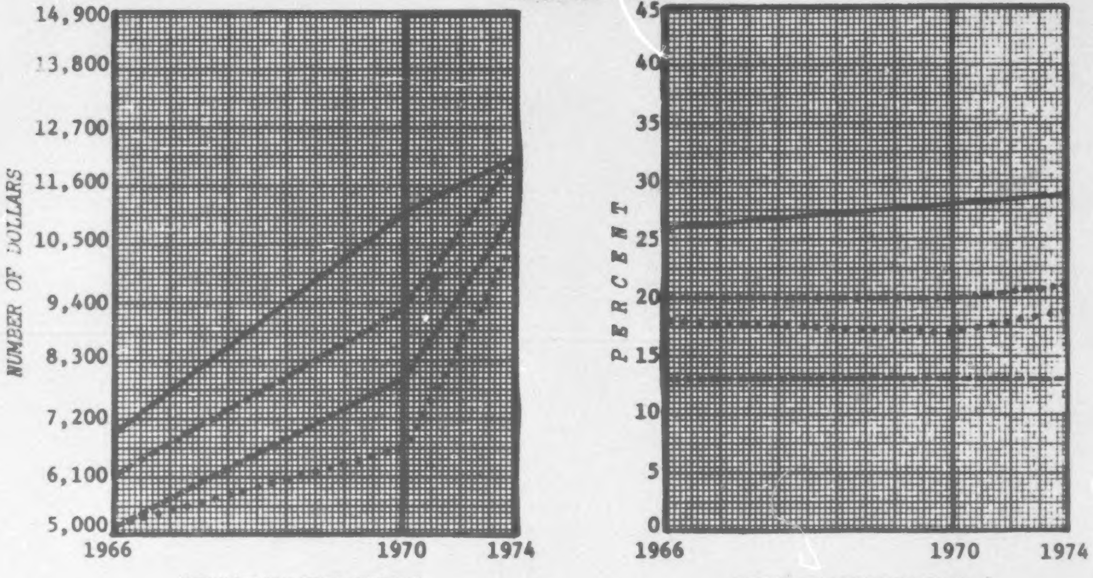
(Continued, page 3)



POPULATION PER HOUSEHOLD

PERCENT FEMALE HEADS OF HOUSEHOLDS WITH CHILDREN 5-17

PERCENT 1-PERSON HOUSEHOLDS

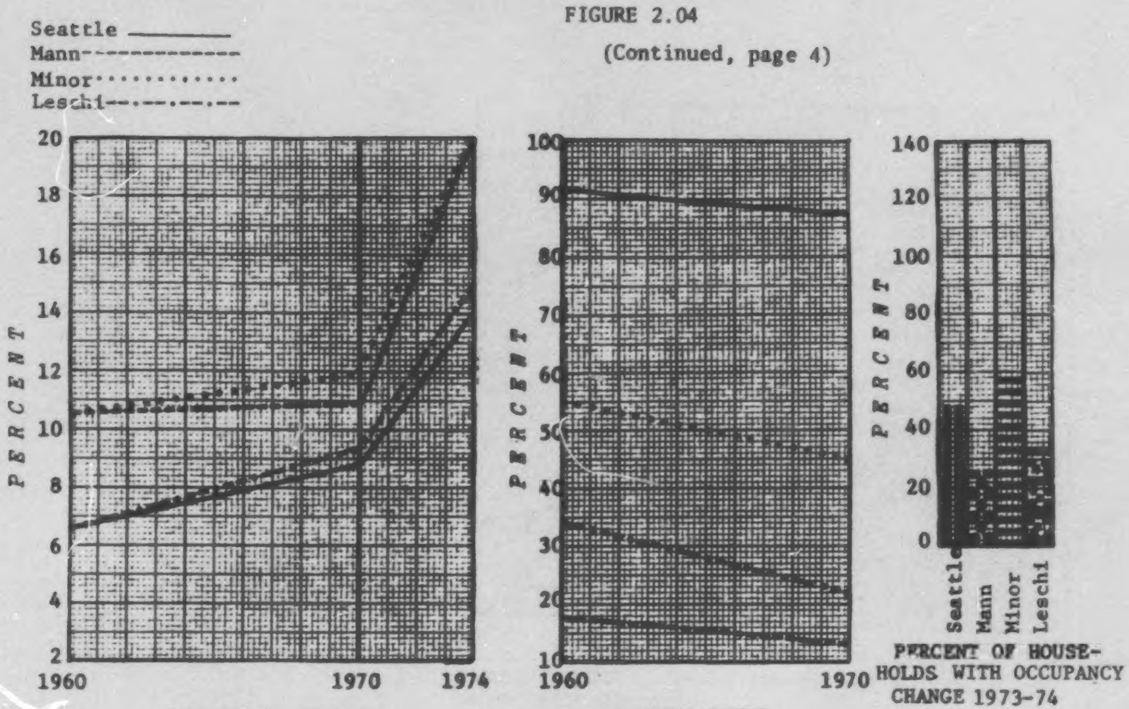


MEDIAN FAMILY INCOME

PERCENT PROFESSIONAL/ TECHNICAL WORKERS

FIGURE 2.04

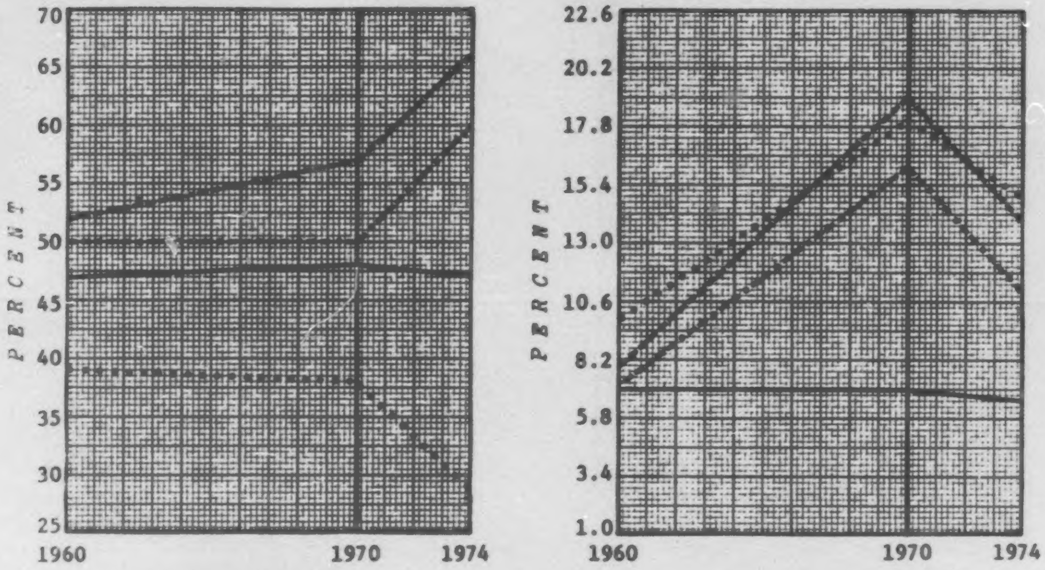
(Continued, page 4)



PERCENT UNEMPLOYED

PERCENT WHITE POPULATION

PERCENT OF HOUSEHOLDS WITH OCCUPANCY CHANGE 1973-74

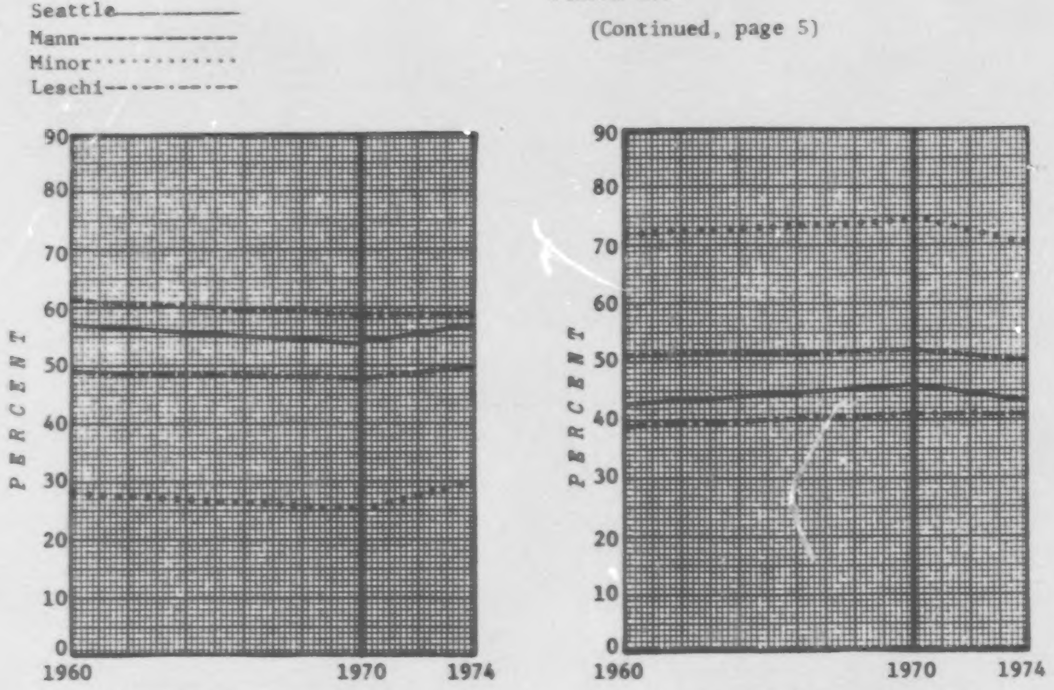


PERCENT IN SAME HOUSE 5 YEARS EARLIER

PERCENT RESIDENTIAL UNITS VACANT

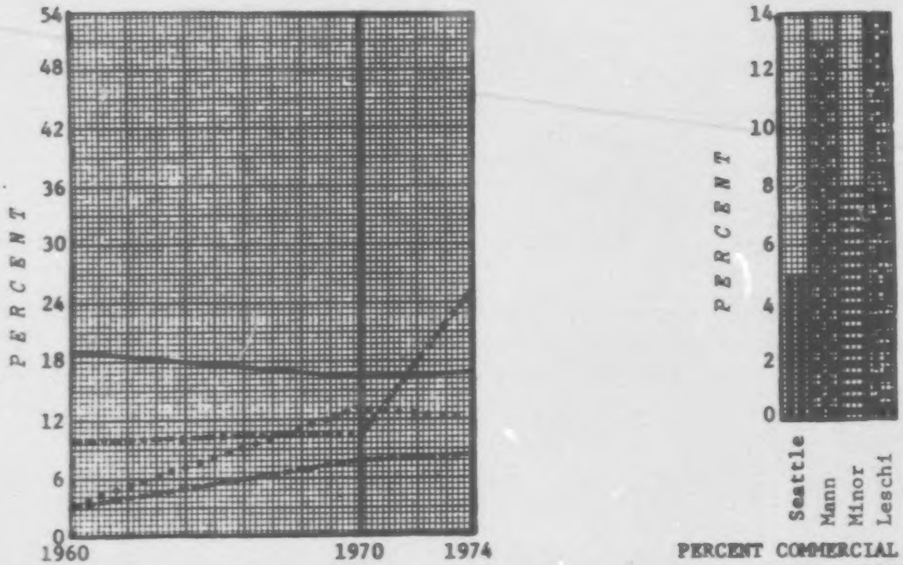
FIGURE 2.04

(Continued, page 5)



PERCENT OWNER-OCCUPIED UNITS

PERCENT RENTER-OCCUPIED UNITS



PERCENT OF RESIDENTIAL UNITS "NEW"

PERCENT COMMERCIAL UNITS VACANT - 1974

Trends in Mann-Minor-Leschi

Population Structure---With respect to most characteristics, Mann and Leschi have behaved similarly throughout the period, while the Minor area is unique. The more "desirable" residential area, Leschi, has declined less in population than has Mann, which in turn has declined less than Minor. Mann and Leschi are very similar in birth rate patterns, indicating no effect of closure on birth rates, or by implication, increased out-migration of families. It is interesting that Minor actually had many more births than Mann or Leschi, or most other areas studied, yet has relatively few young children residents. Clearly, families with young children tend to move out of the Minor area, for housing-related reasons, despite the presence of the school.

Mann and Leschi are almost indistinguishable with respect to the age structure of the population (proportion of population less than 18 years old, population less than five years old, school-age population, and to a lesser extent, population 5-17 years old). Again, Minor differs considerably from the other two schools. The proportion of population under 18 has remained almost the same in Leschi and Mann, while the proportion in Minor (which has tended to be considerably lower) decreased during this period. Furthermore, the decline accelerated after 1970. This trend also is apparent in the very rapid decrease in the school-age population, the population less than five years old, and in the population 5-17 years old. It appears that the school-age population of Minor actually has fallen below that of Mann since 1970.

With respect to number of families, total number and percent of one-person households, and population per household, Mann and Leschi are quite similar. Minor, again, differs considerably. Minor, which did demonstrate a relatively lower proportion of population under 18, indeed, has a much higher percent of one-person households and a much lower population per household.

Population Mobility---Comparing the proportion of the families residing in the same house five years prior, Mann was more stable from 1960 to 1970 than Leschi or Minor, and has evidently continued to be so since 1970. It is the Minor area, not the Mann, that has been less stable. This trend is supported by the recent Polk estimates of occupancy change which indicate that Minor was the most mobile and Mann the least mobile of the three attendance areas.

Socioeconomic Characteristics---All three areas seem to have improved in median family income relative to Seattle between 1970 and 1974, despite much higher unemployment. (However, income data may not be properly comparable for 1970 and 1974.) Again, it is Minor, not Mann, which is lowest in income and highest in unemployment. The Mann area has tended to parallel Leschi and/or Minor, with no deterioration preceding or following closure.

Housing and Land Use Characteristics---Mann and Leschi have patterns similar to each other and to Seattle with respect to renter/owner occupancy. Minor, again, differs considerably. All three areas experienced a similarly increasing residential vacancy rate between 1960 and 1970, and an apparent decreasing (but still high) rate since 1970.

Summary---From these data, no consistent or strong support for either Hypothesis #1 or #2 can be discerned--that is, no unusual change occurred in the Mann area, either before or since closure. The analysis suggests relative decline in population and some characteristics in both Mann and Minor relative to Seattle and Leschi over the whole period (1960-1974), but there is no evidence to indicate any increased rate of decline since 1968 in the Mann area.

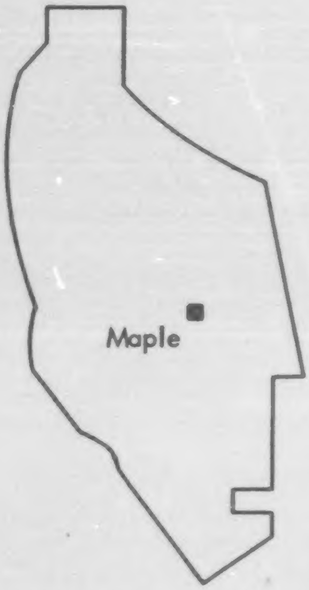
PROFILE 2.05

SUMMIT - MAPLE
ATTENDANCE AREAS

SUMMIT....Boundary at time of closure in 1965

Status in 1974:

Total Population	15,255
Population Under Age 18	2.0%
Median Family Income	$9,760



MAPLE....Boundary at time of closure in 1971

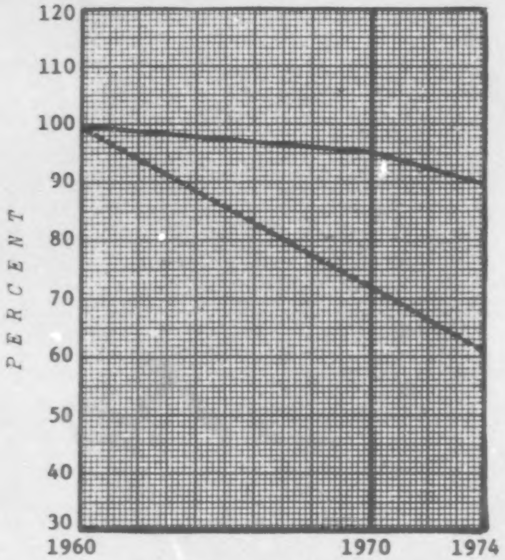
Status in 1974:

Total Population	4,300
Population Under Age 18	30.0%
Median Family Income	$11,700

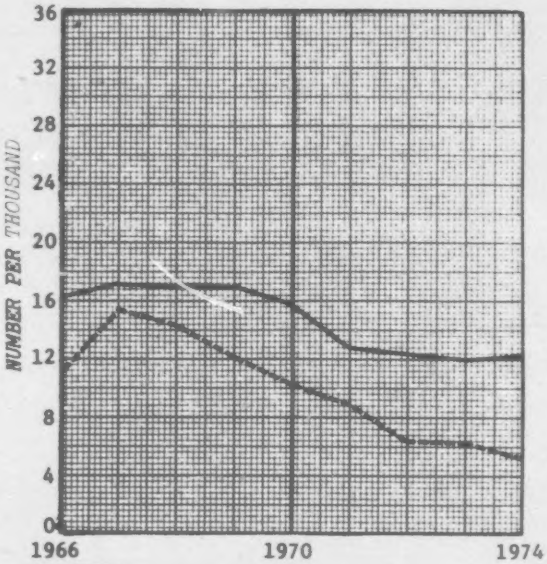
FIGURE 2.05

Graphic Summary of Population and Mobility Change
(Summit and Maple)

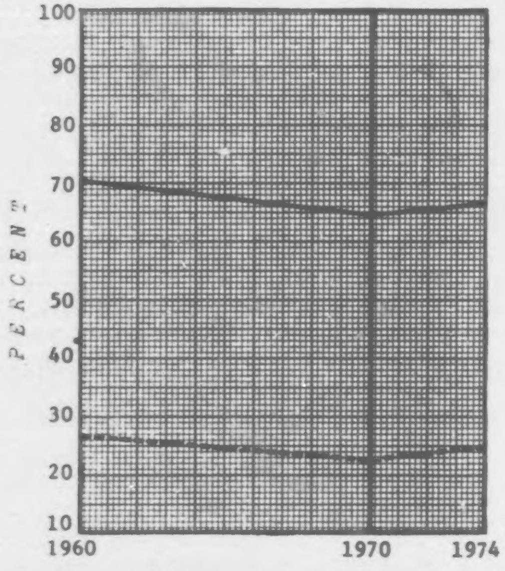
Seattle ————
Summit-----------



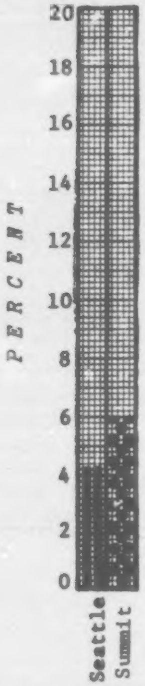
PERCENT POPULATION CHANGE FROM 1960



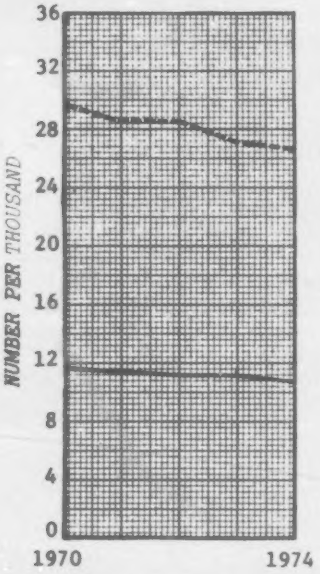
NUMBER OF BIRTHS PER THOUSAND POPULATION 1966-74



PERCENT TOTAL HOUSEHOLDS WITH FAMILIES



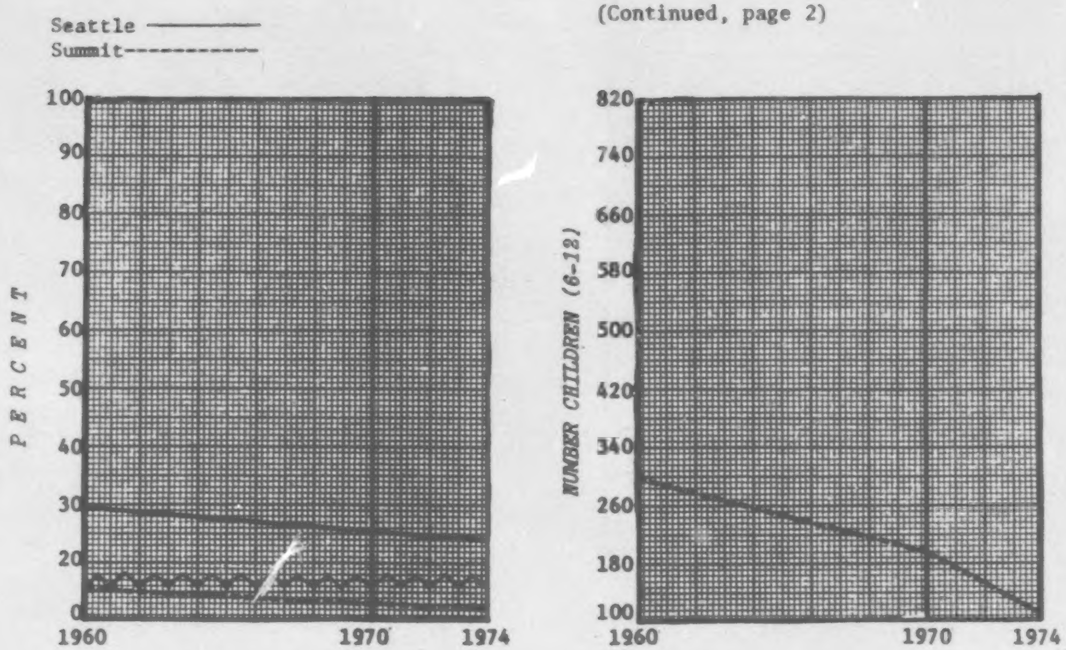
RACIAL CHANGE PERCENT INCREASE MINORITY POPULATION 1960-1970



NUMBER OF DEATHS PER THOUSAND POPULATION 1970-74

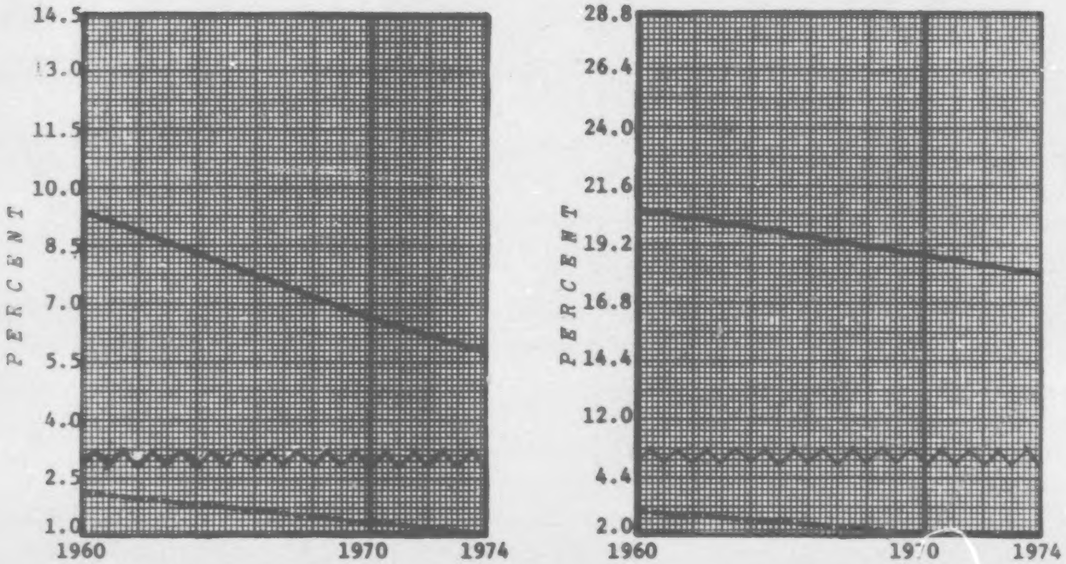
FIGURE 2.05

(Continued, page 2)



PERCENT POPULATION
LESS THAN 18 YEARS OF AGE

ELEMENTARY SCHOOL AGE
POPULATION (AGES 6-12)

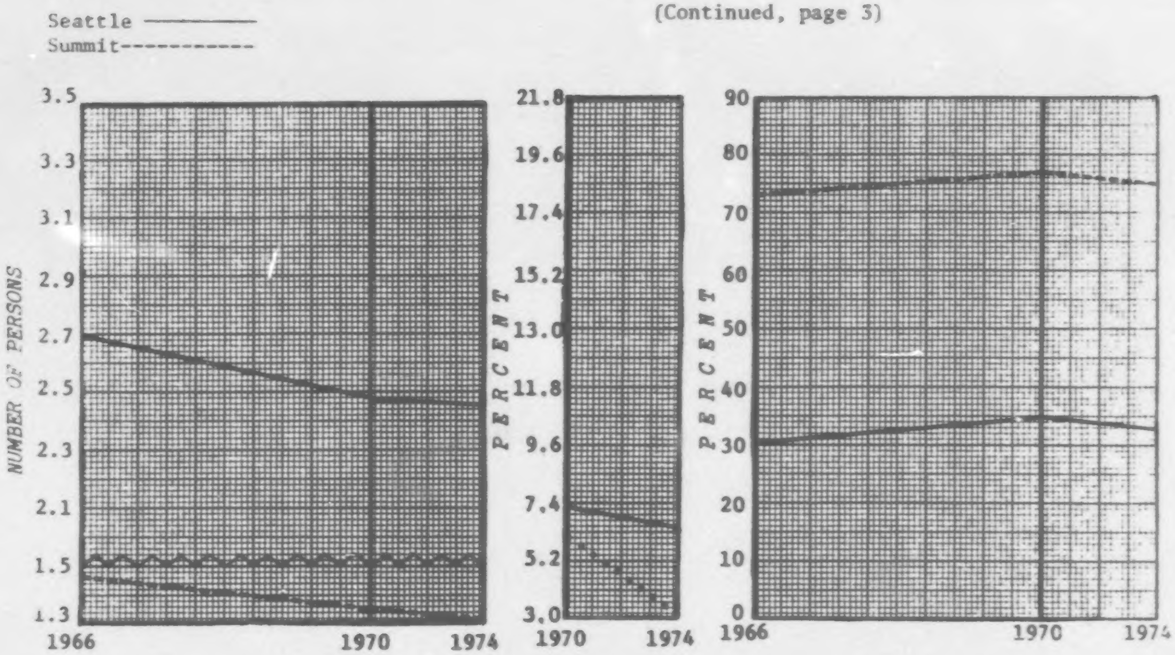


PERCENT POPULATION
LESS THAN 5 YEARS OF AGE

PERCENT POPULATION
5-17 YEARS OF AGE

FIGURE 2.05

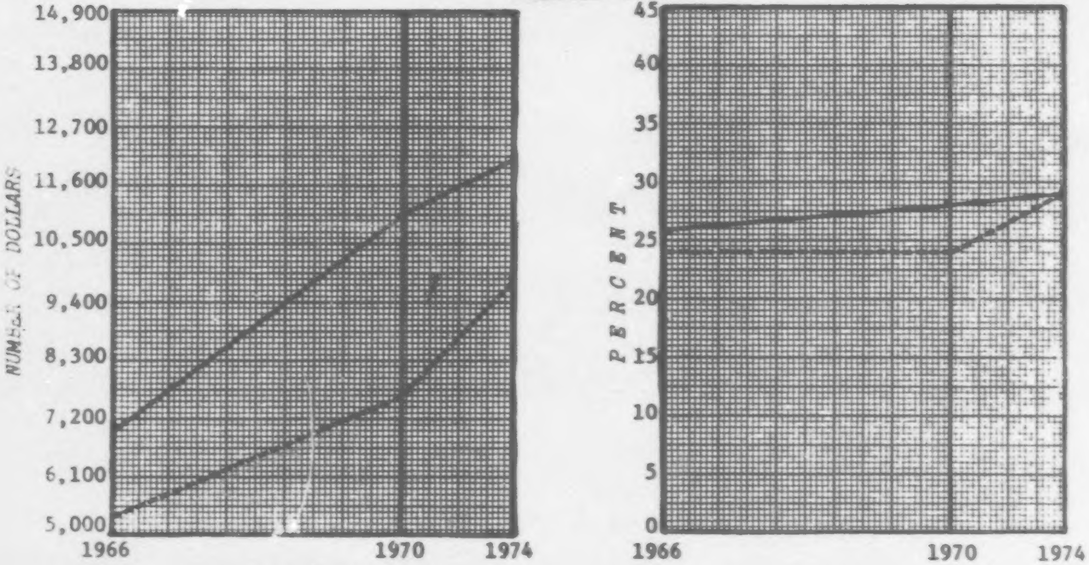
(Continued, page 3)



POPULATION PER HOUSEHOLD

PERCENT FEMALE HEADS OF HOUSEHOLDS WITH CHILDREN 5-17

PERCENT 1-PERSON HOUSEHOLDS

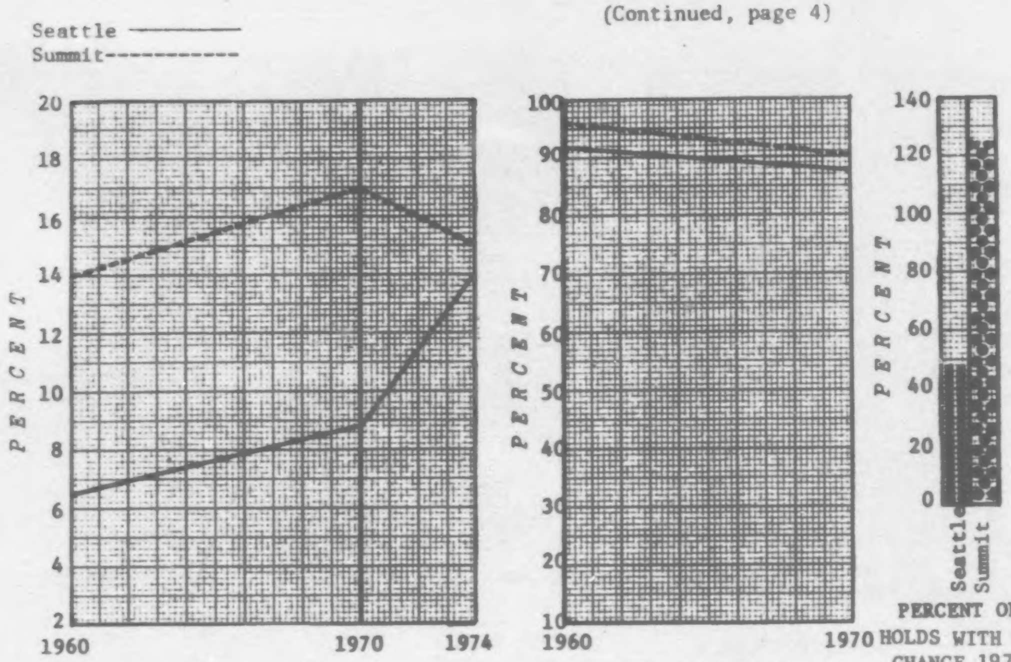


MEDIAN FAMILY INCOME

PERCENT PROFESSIONAL/ TECHNICAL WORKERS

FIGURE 2.05

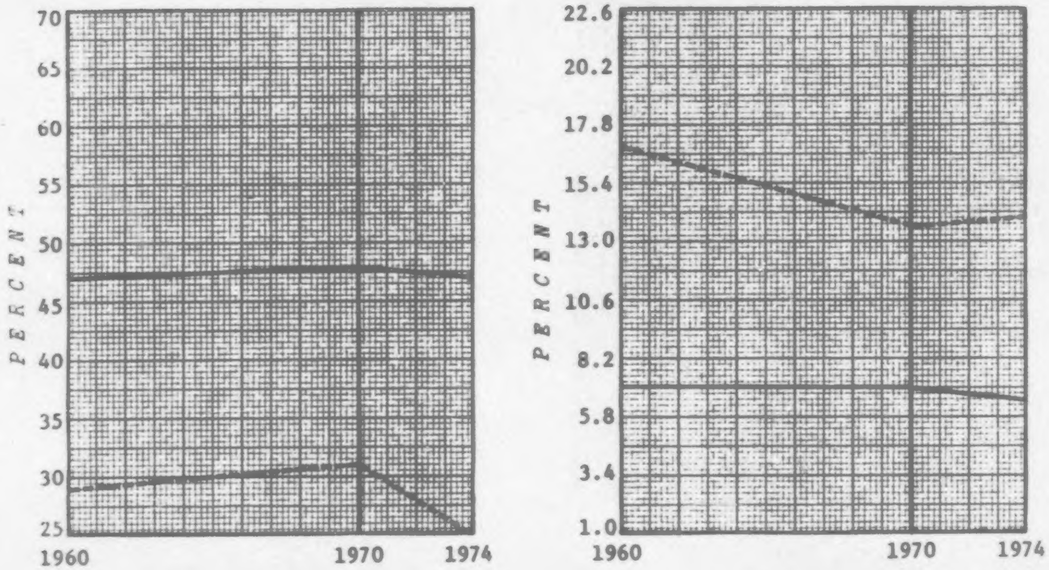
(Continued, page 4)



PERCENT UNEMPLOYED

PERCENT WHITE POPULATION

PERCENT OF HOUSEHOLDS WITH OCCUPANCY CHANGE 1973-74

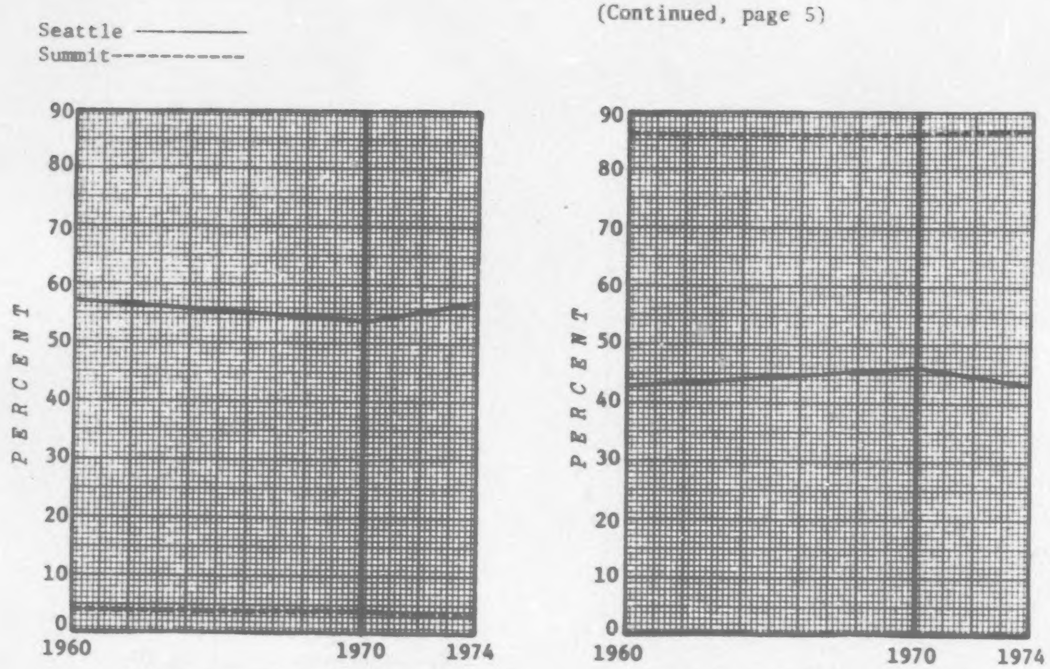


PERCENT IN SAME HOUSE 5 YEARS EARLIER

PERCENT RESIDENTIAL UNITS VACANT

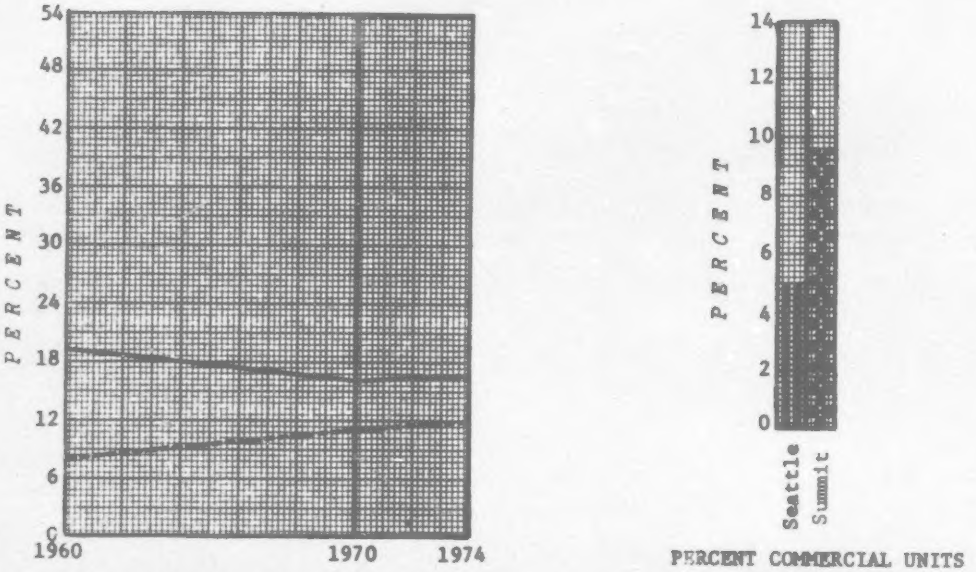
FIGURE 2.05

(Continued, page 5)



PERCENT OWNER-OCCUPIED UNITS

PERCENT RENTER-OCCUPIED UNITS

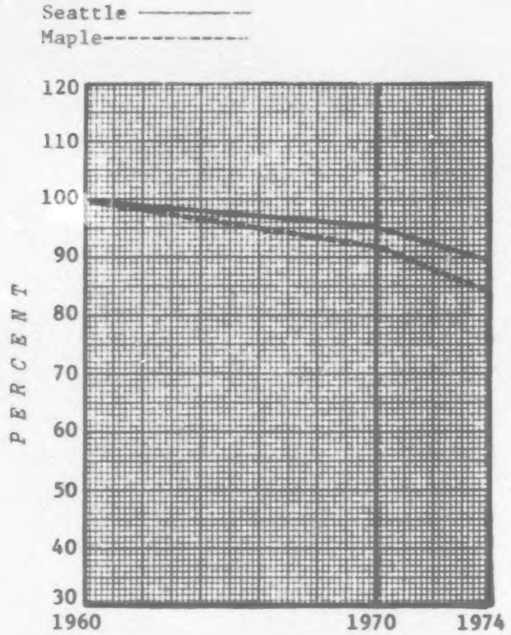


PERCENT OF RESIDENTIAL UNITS "NEW"

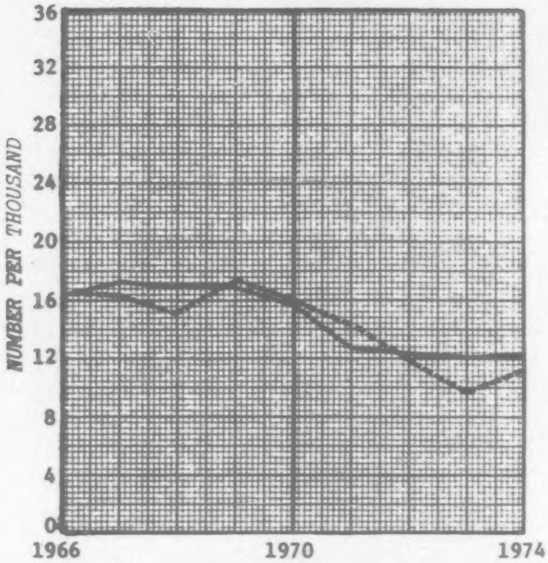
PERCENT COMMERCIAL UNITS VACANT - 1974

FIGURE 2.05

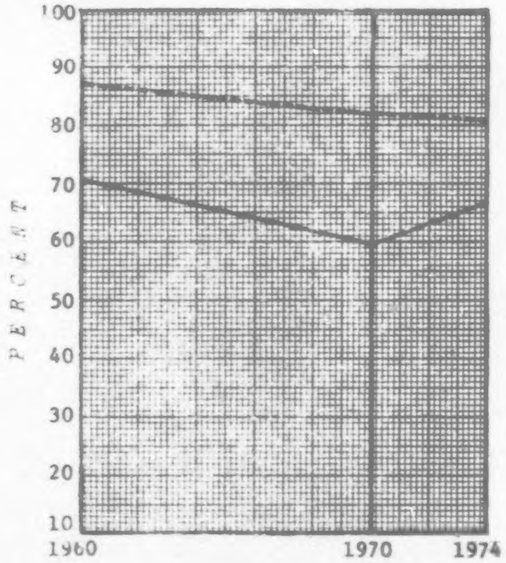
(Continued, page 6)



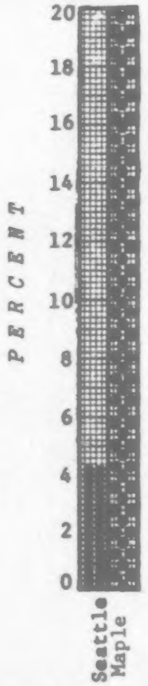
PERCENT POPULATION CHANGE FROM 1960



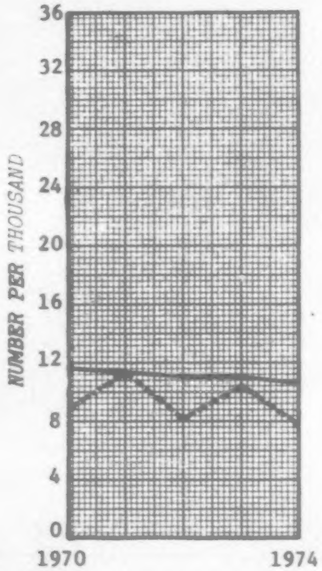
NUMBER OF BIRTHS PER THOUSAND POPULATION 1966–74



PERCENT TOTAL HOUSEHOLDS WITH FAMILIES



RACIAL CHANGE PERCENT INCREASE MINORITY POPULATION 1960–1970

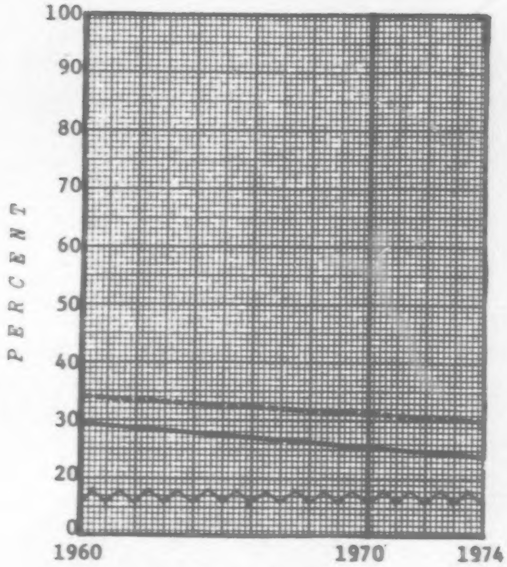


NUMBER OF DEATHS PER THOUSAND POPULATION 1970–74

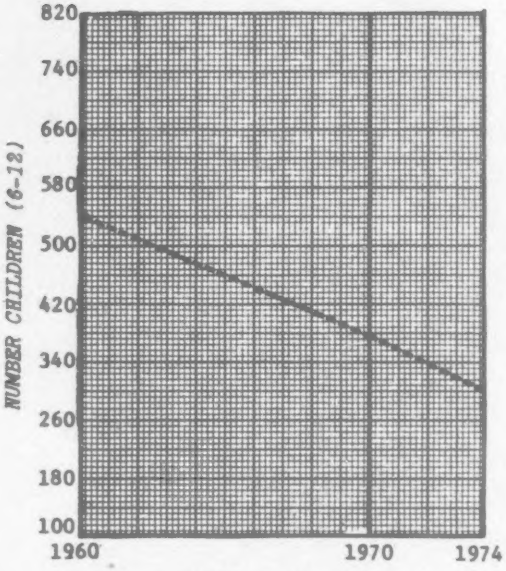
Seattle ________
Maple------------

FIGURE 2.05

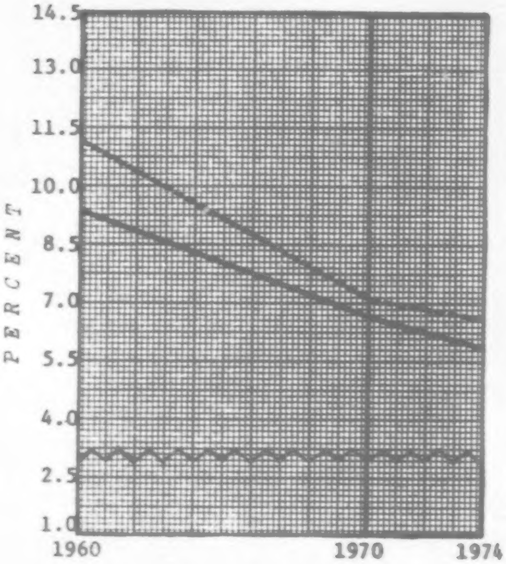
(Continued, page 7)



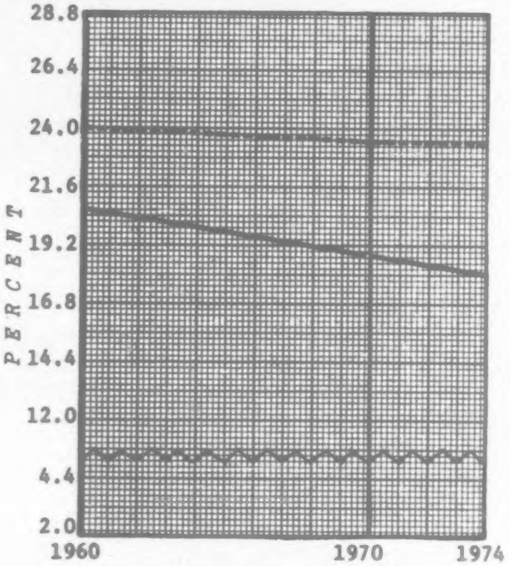
PERCENT POPULATION
LESS THAN 18 YEARS OF AGE



ELEMENTARY SCHOOL AGE
POPULATION (AGES 6-12)



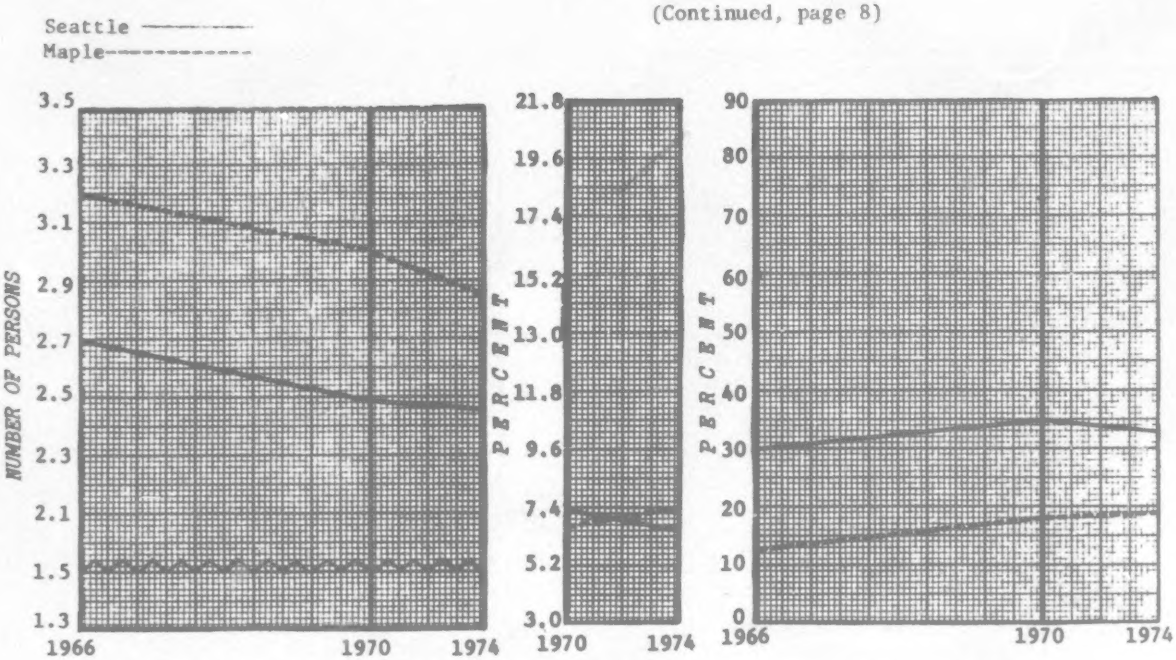
PERCENT POPULATION
LESS THAN 5 YEARS OF AGE



PERCENT POPULATION
5-17 YEARS OF AGE

FIGURE 2.05

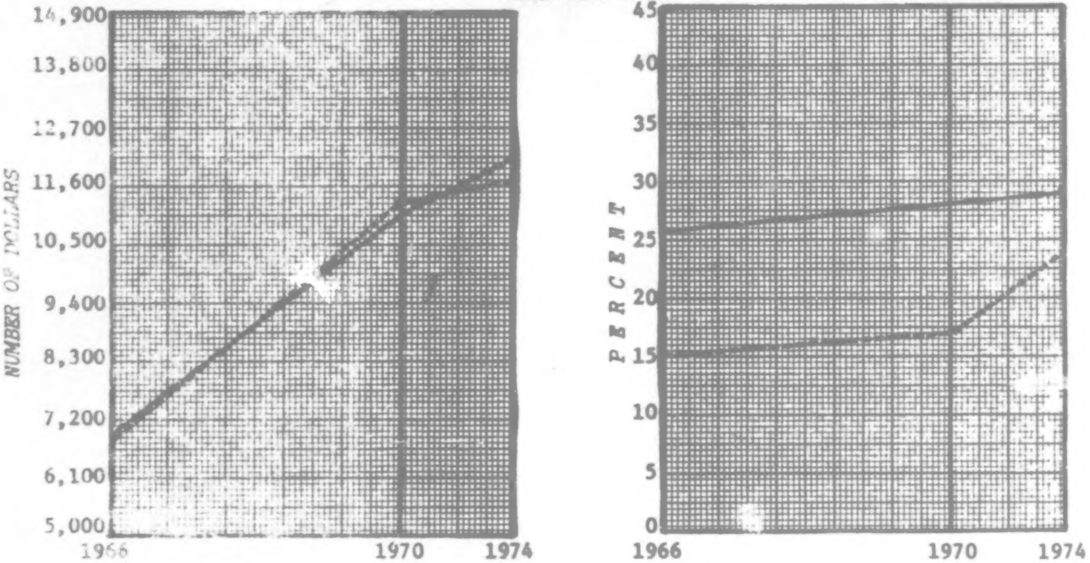
(Continued, page 8)



POPULATION PER HOUSEHOLD

PERCENT FEMALE HEADS OF HOUSEHOLDS WITH CHILDREN 5-17

PERCENT 1-PERSON HOUSEHOLDS



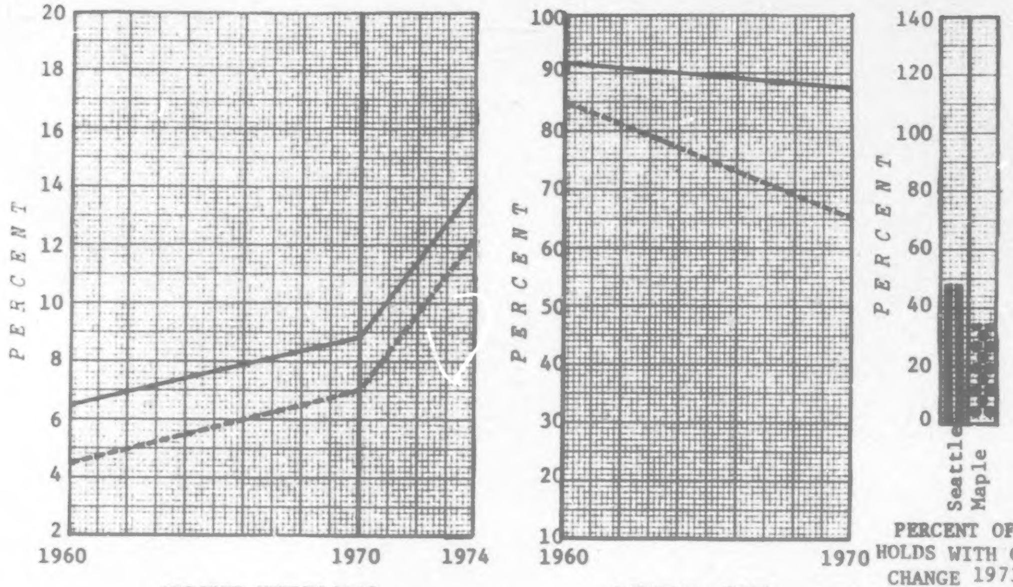
MEDIAN FAMILY INCOME

PERCENT PROFESSIONAL/TECHNICAL WORKERS

Seattle ————
Maple------------

FIGURE 2.05

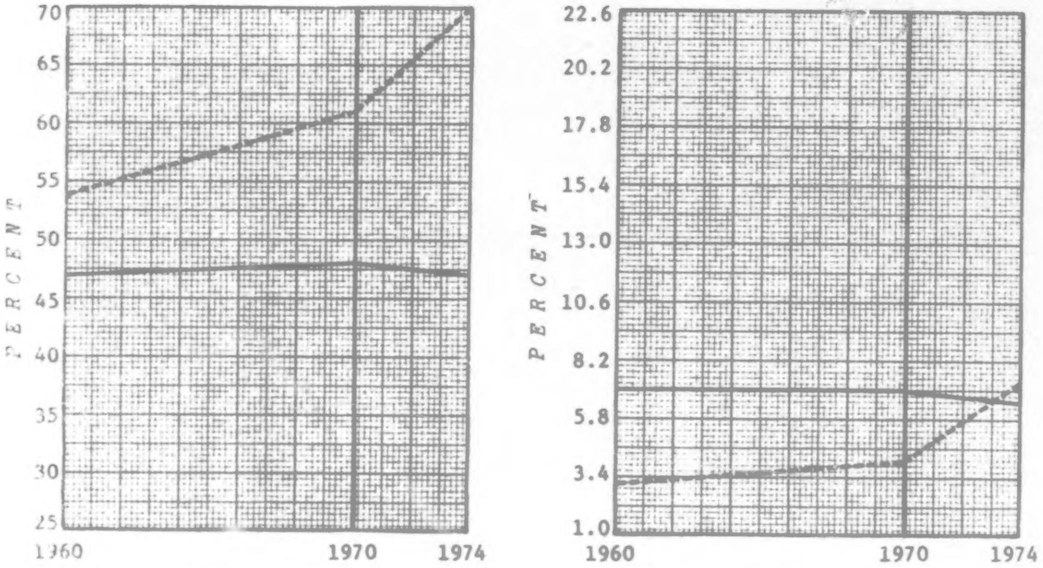
(Continued, page 9)



PERCENT UNEMPLOYED

PERCENT WHITE POPULATION

PERCENT OF HOUSEHOLDS WITH OCCUPANCY CHANGE 1973-74

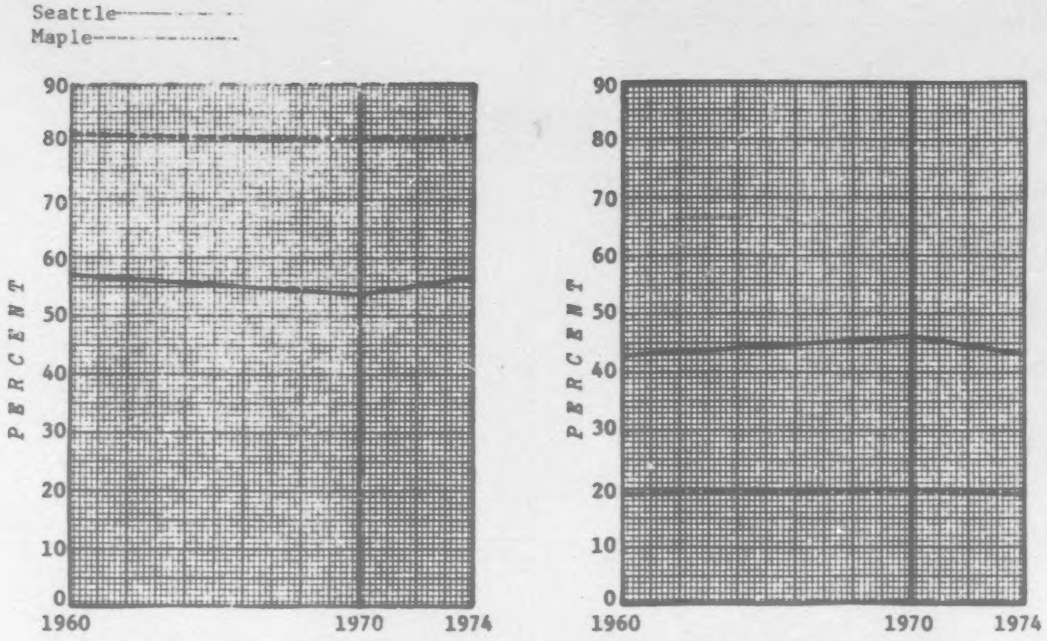


PERCENT IN SAME HOUSE 5 YEARS EARLIER

PERCENT RESIDENTIAL UNITS VACANT

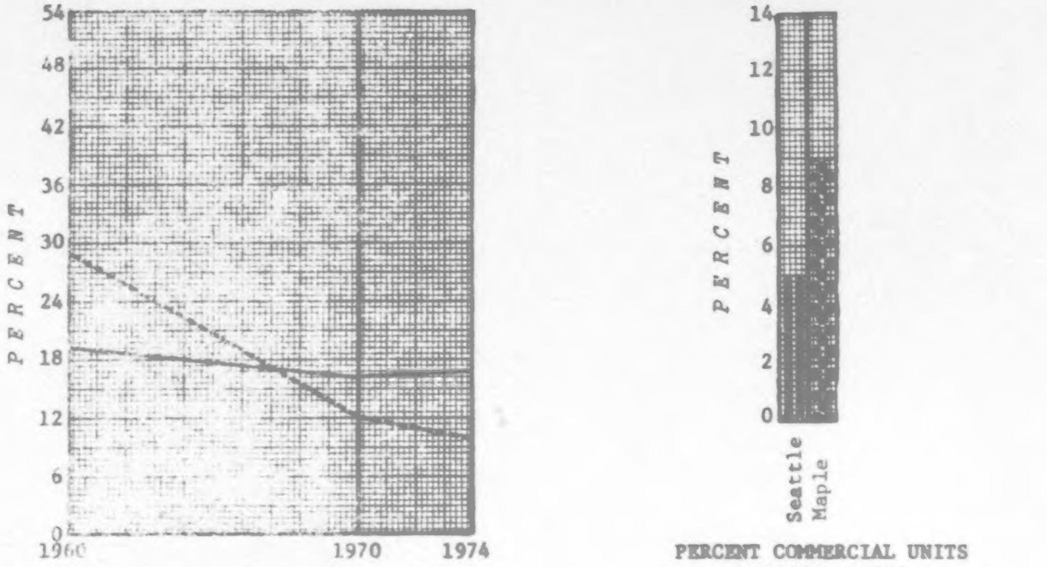
FIGURE 2.05

(Continued, page 10)



PERCENT OWNER-OCCUPIED UNITS

PERCENT RENTER-OCCUPIED UNITS



PERCENT OF RESIDENTIAL UNITS "NEW"

PERCENT COMMERCIAL UNITS VACANT - 1974

Trends in Summit and Maple

Summit and Maple are reported in the same profile to economize on space and not because of any assumed relationship between the schools. Summit is a closure case for which no control could be found and Maple is an example of closure and construction of a new facility nearby. Because no closure-control comparison is intended in relation to either school, only a very general summary for each school has been included here.

Summit---Summit, like Georgetown, experienced a sharp decline in population over the whole period, probably steeper between 1960 and 1970 than since, as a result of a large amount of demolition and replacement by commercial use, parking lots, etc. The Summit area is remarkable for the very large surplus of deaths over births. However, the absolute number of births was, and still is, very high, while the number of children is very small. Again, families with children apparently desert the area quickly. Socioeconomic conditions have improved as the poorer, one-person households have been removed and replaced by more affluent and professional renters. Closure of the school in 1965 appears generally unrelated to these larger processes; however, there is some evidence that school closure in 1965 may have led to a short-term loss of school-age population from the Summit area. This impact, while judged to be of minor significance, is examined in greater detail in Chapter 3 (p. 100). Overall, Summit appears to be an example of Hypothesis #2, urban change overwhelming a local school area.

Maple---Maple has a profile rather like that of Seattle as a whole. Population declined very slowly. Although the number of children declined slightly, the proportion of the population less than 18 years old is virtually unchanged. Numbers of families, one-person households, and population per household remained constant. Thus, a viable number of families and children remained to sustain the school. Stability, as measured by the proportion residing in the same house as five years earlier, is fairly high and increasing. Maple's median family income approximates the Seattle average, but the percent of professional/technical and managerial employment is lower than the Seattle average. Maple is characterized by a higher proportion of owner-occupied housing and a low, but increasing, vacancy rate. The percent of new residential units has declined in recent years.

Detailed Study of Population and Land Use Patterns

The data presented up to this point has focused on general trends within school attendance areas and there has been no attempt to identify localized shifts within these areas. In this section of Chapter 2, we review three efforts to isolate these more localized changes in selected school attendance areas. The first is a block analysis of the 1960 and 1970 population in four groups of schools--Interlake-Allen, Mann-Minor-Leschi, Georgetown-Concord, and Summit. The second is a block mapping of demolitions and new structures in each of the control and closure school areas and the third is an analysis of year-to-year change in occupancy of residential and commercial structures.

1. Block Analysis of Population. In Table 2.01, we observed the percent declines in total population between 1960 and 1970 in each of the closure and control attendance areas. These general decline figures provide no indication as to the specific gain or loss patterns existing within the several attendance areas. It was in the interest of examining these patterns that the BSSR study staff undertook a block-by-block comparison of the 1960 and 1970 populations in four groups of schools. Maps showing gains and losses for the several school areas are found in Attachment 2C. General conclusions are described below. Before reviewing these conclusions, the reader should be cautioned that block data is available for 1960 and 1970 only; hence, no pattern of population change can be examined just for the period following closure. For this reason, the block analysis is helpful only in examining hypothesis #2 which deals with the pattern of change leading up to the event of closure.

Interlake-Allen---During the 1960-70 decade, both school attendance areas experienced moderate decline, 7.1 percent for Interlake and 6.3 percent for Allen. The pattern of gaining and losing blocks within the two attendance areas was fairly random, with a slight tendency in Interlake for more losses in the east part of the attendance area, and gains in the west, where there was new apartment construction. In the Allen area, there was absolutely no pattern to the gains and losses within the attendance area.

Georgetown-Concord---In the 1960-70 decade, Georgetown's population fell drastically (45 percent), while Concord's fell but moderately (ten percent). Only a few blocks in Georgetown gained in population while many lost all or almost all residents, as industry and commerce replaced housing. In Concord, the pattern consists of gains in the core of the community and losses in the periphery (partly as a result of shifts to commercial and industrial use). Without doubt, the population change pattern supports Hypothesis #2 in this pairing. Prior community change virtually forced closure of the Georgetown School.

Mann-Minor-Leschi---In these school areas, population declined 23, 30 and 14 percent respectively during the decade, with the severity of loss in inverse relation to distance from the downtown area. Population grew in Leschi in more affluent areas close to the lake and from apartments on a few arterials. Otherwise, change was random. Loss in Minor was general with only randomly scattered blocks gaining. No particular gains were observed in census blocks adjacent to the closed school areas (Summit to the southwest, Mann to the southeast). Mann is a more interesting case. The area within three blocks of the closed school did experience a greater population decline than the rest of the attendance area (25 percent to 19 percent). However, only two years of the decade were after closure. Possibly, this measurable difference does reflect a movement out of families with school-age children.

Summit---The Summit case illustrates the typical great volatility of population in and around a central business district, with many blocks showing sizable gains or losses resulting from frequent demolition and some new construction of large apartment units. The encroachment of business and other activities was most pronounced to the west and south of the attendance area; near the freeway to the north are extensive new high-rise apartments. This addition of apartments in the immediate Summit School area has resulted in but slight loss in the vicinity of the closed school (approximately six percent as compared to an overall loss of 28 percent).

2. Demolitions and New Construction. The census and Polk Profile data displayed in the school profiles had no information on the rates of demolition and very limited data on new construction activity in the school attendance areas. As a means of identifying any significant change in the pattern of residential unit change, the BSSR staff plotted demolition and construction data obtained from the Office of Policy Planning, City of Seattle. These data are for recent years--1972, 1973, and 1974--and include construction of residential units only. The plots of this demolition and construction activity are found in Attachment 2D and the summary results follow.

Interlake-Allen---The pattern of demolition and construction in both attendance areas is essentially random during the 1972-74 period, with no relationship to school locations. Construction sites are the same as demolition sites in both areas in almost half the cases, even during this short period.

Decatur-Maple Leaf---Both areas still contain building space and this is shown in the construction to demolition ratios of 4/1 and 28/4 respectively. The patterns in neither school area had any relationship to school location.

Georgetown-Concord---Just in these three years, 1972-74, the Georgetown area experienced massive demolition (considering the small housing stock left at the beginning of the period). There were 75 demolitions just in the Census Tract 109 portion, while there was no residential construction. Thirty-three of the 75 demolitions were in the Benaroya Industrial Park. Concord also reveals an excess of demolition over constructions. The actual numbers of each were 31 and six respectively. The demolition activity took place mainly to the north and east part of the attendance area and near the Duwamish River. This is the more industrial side of the community; hence we are observing an incipient Georgetown-like pattern.

Mann-Minor-Leschi---All three areas experienced a highly favorable balance of much demolition and little construction. Mann experienced 139 demolitions compared with only three constructions during the 1972-74 period. The comparable contrasts for Minor and Leschi were 157/1 and 113/7 respectively. In none of the three areas is the major zone of decline near the school site. In the Mann and Leschi attendance areas, the decline is greatest in older housing to the southwest; in Minor it is located to the south.

Summit---Reflecting continuing intrusion of commercial structures, demolition of residential units outpaced construction by 50 sites to one or 703 units to 14. Obviously, these few years provide no support to the idea that people are coming back to the downtown area to live. The pattern of demolitions in the Summit area seemed to have no particular relationship to the school site. The major part of the demolition activity occurred in the south part of the attendance area and along the I-5 corridor.

Maple---Maple has a near balance of demolition and construction for the 1972-74 period. All of the eleven demolitions are located in the area between the old school site and I-5 to the southwest. The construction activity is to the north and east of the old school site.

As part of this discussion of demolition and new construction, it is useful to make reference to a recent study completed by Urban Planning students at the University of Washington.* This particular study examined residential and commercial investments (measured in terms of both new buildings and repairs/alterations on existing buildings) in the Interlake-Allen and Mann-Minor-Leschi communities in the years immediately before and following school closure. Differences in the closure and control neighborhoods were generally small; however, beginning in 1968, residential investment in Allen has increased relative to Interlake. There is some indication that this residential investment advantage for the Allen area has actually increased since the closure of Interlake. Commercial investments in the Interlake area were higher than in Allen even before closure, and there has been no greater divergence in the pattern since the point of closure in 1971. These trends are only suggestive but are certainly consistent with an earlier observation of a slightly higher rate of population loss in the Interlake area in the years immediately following closure.

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*Jalali, Iraj, Marty Lester, and Barney Myer, "Background Study and Impact Analysis of the Relationship between School Closures and Private Investment," June, 1976.

3. Change of Occupancy in Residential and Commercial Structures. To investigate the aspect of Hypothesis #1 suggesting a greater rate of land use change in closure areas, and especially near closed schools, a study of occupancy changes over the 1969-1975 period was completed. This study involved four of the closure and control schools--Interlake, Allen, Decatur and Mann--and required a detailed examination of occupancy changes in a 20-25 percent sample of block faces in these four school areas. The Seattle Polk Directories for 1969, 1971, 1973 and 1975 were used to track the occupancy changes, and the charting of these changes is shown on the maps of Attachment 2D. A summary of the results of this analysis in each of the four school areas follows.

> Interlake-Allen---In Table 2.04, we note the occupancy change rates for Interlake and Allen for both the 1969-71 and 1971-75 time periods. In actuality, the occupancy change rates before and after the school closure were approximately equal. The higher figures for the 1971-75 period are simply a reflection of the longer time

Table 2.04

Interlake-Allen Occupancy Changes[*]

(1969-71 and 1971-75)

Zone Designation	School Attendance Areas			
	Interlake		Allen	
	1969-71	1971-75	1969-71	1971-75
Near School (less than 3 blocks)	.33	.56	.41	.68
Away from School (3 to 6 blocks)	.34	.60	.34	.52
North	.34	.59	.41	.57
West	.37	.71	.31	.52
South	.32	.56	.27	.45
Far from School (more than 6 blocks)	.42	.70	--	--
Total Attendance Area	.36	.61	.36	.57

[*] The occupancy change ratios presented here represent the number of occupancy changes over the specified time period divided by the total number of units included in the sample. Seattle Polk Directories were used to identify the occupancy changes.

span involved in this post-closure period (almost four years, compared to a little over two years for the pre-closure time period) used in the analysis.

There are only two significant differences (in a statistical sense) with respect to occupancy change rate and distance from school. In the 1971-75 period, the occupancy change rate in the area close to Allen is significantly higher than the change rate in the area away from the school (0.68 compared to 0.52). The other significant difference occurs in the higher occupancy change rates in 1971-75 for the area most distant from Interlake (0.70 compared to 0.56 in the area closest to the school). Neither of these significant differences provide support for Hypothesis #1; however, the fact that the area close to Allen school has a higher turnover rate than more distant areas and than the area around the Interlake School, before or after its closure, is a consequence of Allen's higher proportion of commercial and apartment units close to the school. Similarly, the higher mobility rates for the zone farthest from Interlake simply reflect its more rental character. The evidence, then, indicates no significant difference whatever in turnover rates with distance from the school in Interlake, and no measurable differences between Interlake and Allen.

Decatur---In the case of Decatur, two two-year periods were used in the analysis. We note in Table 2.05 that the differences in occupancy change rates are minimal. Differences between zones are again attributable to the variable presence of a few apartments. The threat of closure had no discernable effect on turnover rates anywhere in the Decatur area. Of course, a single year (the threatened closure did not occur until mid-1974) of impact is hardly time to expect any such effect.

Mann---Since Mann closed in 1968, the entire 1969-75 time period was used in this case. The study staff also included demolition and vacancy patterns in its analysis of the Mann area. Considering the longer time period, and the fact that the Mann area has a higher percent of renters than Interlake, Allen, and Decatur, the occupancy change rates are not terribly high. We noted in Table 2.06 an overall occupancy change rate of 0.82 over the six-year period. The occupancy change and demolition rates near the Mann school are slightly less than those for the total attendance area; however, the differences are not statistically significant and are probably due to differences in relative income and home ownership levels.

Mann is different from Interlake, Allen, and Decatur in its much higher vacancy rates and the larger numbers of residential units demolished during the period. Both of these differences may be related to closure of the school, except that earlier comparisons showed that while Mann lost relatively more units and had higher vacancy rates than the higher income, more homeowning Leschi, it lost fewer units and had lower vacancy rates than the Minor area, which retains a school.

The pattern of increased vacancy rates in the area near the school (0.13 in 1969-71 to 0.19 in 1973-75) is of some interest. It provides some minor support for the net exit of families with children living near the school and is consistent with the earlier observed greater decline in population near the school.

Table 2.05

Occupancy Changes in Decatur Attendance Area*
(1969-71 and 1973-75)

Zone Designation	Time Period	
	1969-71	1973-75
Near School (less than 3 blocks)	.29	.25
Away from School (3 to 6 blocks)	.22	.24
Far from School (more than 6 blocks)	.32	.21
Total Attendance Area	.26	.23

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*The occupancy change ratios presented here represent the number of occupancy changes divided by the total number of units included in the sample.

Table 2.06

Occupancy Data on Mann Attendance Area

Zone Designation	Occupancy Change Rate[a] 1969-1975	Demolition Rate[b] 1969-1975	Vacancy Rate	
			1969-71	1973-75
Near School (less than 3 blocks)	.72	.06	.13	.19
Away from School (3 to 6 blocks)	.85	.16	.21	.22
Far from School (more than 6 blocks)	.90	.10	.07	.09
Total Attendance Area	.82	.12	.17	.19

[a] The occupancy change rate presented here represents the number of occupancy changes divided by the total number of units included in the sample.

[b] This demolition rate is the number of demolitions occurring among the sample properties divided by the total number of properties in the sample.

[c] The vacancy rate represents the total number of vacancies among the sample properties (at the time the Seattle Polk Directory was compiled) divided by the total number of properties in the sample.

School Closure and Changes in Population and Land Use

Having considered both the general patterns of change in all closure and control areas and the more detailed patterns of change within selected areas, it is important to summarize our findings of related population and land use changes before and after the school closure event. Beginning with Hypothesis #1 (the prediction of rapid rates of post-closure deterioration) the evidence from these few cases is generally inconclusive. Interlake did experience, according to limited data, a marginal decline relative to Allen with respect to population totals, movement out of families with children, proportion of the population of school-age, unemployment, and mobility rates. By marginal, we mean only a few percentage points (e.g. a -7.3 percent net migration rate compared with only -5.5 percent for Allen, a four percent decrease in the proportion of professional/technical and mangerial workers in Interlake as compared to no change in Allen); indicative of decline, but a very tentative indication at best. In most respects, the Mann area did not decline following closure relative to either Minor or Leschi. Total population declined relatively in the area around the Mann School following closure, but it increased in the vicinity of Summit. Neither of these relative changes in the area around the school seem related to school closure. Some Georgetown families apparently moved to the Concord as well as other areas after closure; but otherwise, conditions improved or deteriorated no further than prior to closure. The time period following the 1974 threatened closure at Decatur is simply too short to make any statement relating to Hypothesis #1.

Some support exists for Hypothesis #2 (the existence of pre-closure deterioration) in the Georgetown and Summit school areas. Long-term population decline and out-migration of families, despite the presence of schools, appears to necessitate the closure of both Georgetown and Summit, casualties of the inevitable process of urban change. While the Mann area had been declining prior to its closure in 1968, its performance on the several population and land use indicators was no worse than Minor. The Interlake area already had slight decline relative to Allen prior to 1971 but nothing remotely like that existing in Georgetown or Summit prior to their respective closures. Even now, 250-300 students in grades K-6 reside in the Interlake attendance area, probably more than in a similar geographical area surrounding some present schools.

In general, we conclude that the limitations of the data base used in relation to population and land use trends, the limited time since some of the closures (especially Decatur), and the very few cases make it extremely difficult to conduct generalizable tests of the two basic hypotheses. Such tests are especially difficult in relation to Hypothesis #1. The evidence is simply not good enough to assert with any degree of certainty either that school closure has no measurable effect or that it does have an effect. Minimal changes have been observed following closure in the Interlake area. Other school closures examined in this particular study do not seem to be followed by increased rates of change in key social and economic indicators. In most cases, it appears that population and land use changes occur independent of the school. In subsequent chapters, we will look at other key variables and attempt a further test of the two hypotheses in relation to these variables.

Chapter 3

SCHOOL ENROLLMENT CHANGES BEFORE AND AFTER CLOSURE

The school profiles of the previous chapter provided overall K-6 enrollments (actually estimates of population in the 6-12 age range) for each of the closure and control school areas in 1960, 1970 and 1974. These profiles did not include any analysis of school enrollment shifts just before or following the events of school closure; neither did they analyze the specific mobility of students attending closure and control schools or the characteristics of the students leaving the school at the time of closure. Recognizing that this mobility information may be critical in assessing the impacts of the several school closures, the BSSR study staff did complete a limited investigation of these important shifts in school enrollment at the time of closure. Particular attention was directed to the post-closure change rates suggested by Hypothesis #1. Specifically, the investigations consisted of a review of previous studies in selected school neighborhoods and intensive analysis of students (and their achievement patterns) leaving certain of the control and closure schools in the three years immediately following closure.

Before examining the results of these several investigations of school enrollment patterns, it is important to comment on the problems with the data sources used in this particular chapter. School enrollment data comes primarily from two sources--the enrollment counts submitted by the individual school principals at the beginning of each month of the school year and the enrollment files available through the Seattle School District Computer Center. These latter files are available only for years after 1969 and apparently match the enrollments as turned in by the schools only in the last three or four years. This inconsistency in data sources, particularly for the time period prior to 1974, presents certain problems to examining enrollment patterns on the basis of residential location (as opposed to school of attendance) during the entire period under investigation. While the study staff has attempted to resolve differences between the two major data sources, it is necessary on occasion simply to point out the difference along with the alternative interpretations resulting from the gaps in data.

Because of the inclusion of several separate investigations, the study team divides its presentation on school enrollment patterns into three parts. First is an overall presentation of enrollment trends in four of the control and closure schools groups--Interlake-Allen, Decatur-Maple Leaf, Georgetown-Concord, and Mann-Minor-Leschi. Also in this first section is a brief review of enrollment patterns in the Summit area. Second is a summary of mobility patterns in just two of the closure-control school groups--Interlake-Allen and Mann-Minor-Leschi. The third part of the enrollment analysis speaks to achievement score differences between students leaving the school following the closure and those choosing to remain in the school attendance area. This examination of achievement patterns is followed by an overall summary of enrollment shifts prior to and following closure and the relationship of these shifts to the central hypotheses being investigated in the study.

Enrollment Trends Before and After Closure

In Table 3.01, we see a summary of enrollment trends in the four school groupings of primary interest in this study on the impacts of school closure. In all cases, the pre-closure enrollments are based upon the regular enrollment reports filed in October of the designated school year. The post-closure data for both closure and control schools is taken from computer files and includes students listed as residing within the boundaries existing at the time of school closure. The holding power ratios for the 1963-74 period are of greatest interest in our analysis of closure impacts. Note in the case of Interlake-Allen, the holding power is lower at Interlake (0.66 at Interlake and 0.77 at Allen) following the closure in 1971. This same differential in holding power seemed to exist in the more recent years prior to closure; hence, we have little evidence of any particular impact relating directly to the closure decision.

As a means of determining the comparative holding power at various distances from the school, the enrollments in grades K-6 at both Interlake and Allen were plotted for the years 1969 and 1970 (prior to Interlake's closure) and 1973 and 1975, following closure. The results showed, in the years following closure, a somewhat lower holding power in the zones closest to Interlake and no particular holding power differential for the various zones in the Allen attendance area. Zones most distant from Interlake seem to maintain a high holding power ratio immediately following closure but exhibit some drop-off by 1975. These plots lend support to a modest impact for school closure in the Interlake case, an impact which seems to spread out from the school over time. Other factors may of course be operating, and attributing these enrollment patterns entirely to the event of school closure is unwarranted.

Table 3.01

Student Enrollment in Seattle Public Schools, K-6

School[a]	Enrollment in Grades K-6[b]					Holding Power Ratios[c]		
	1960	1963	1966[d]	1970[e]	1974[f]	1966/1963	1970/1966	1974/1970
Interlake (1971)	584	564	579	448	296	1.03	.77	.66
Allen	589	600	604	542	415	1.01	.90	.77
Decatur (1974)	--	337	297	347	382	.88	1.17	1.10
Maple Leaf	--	746	623	485	325	.84	.79	.67
Georgetown (1971)	421	385	283	161	104	.74	.57	.65
Concord	438	434	411	365	278	.95	.89	.76
Mann (1968)	599	547	404	472	374	.74	1.17	.79
Minor[g]	769	780	749	367	357	.96	.49	.97
Leschi	574	564	538	398	372	.95	.74	.93
Seattle District	54,415	51,939	50,797	43,344	33,441	.98	.85	.77

[a] The date of closure (or threatened closure) is indicated in parentheses following the school name.

[b] These enrollments are for regular students only and exclude special education. Unless stated otherwise, pre-closure enrollments for both closure and control schools are based upon reports submitted by the building principals for October 1 of the indicated year and do include some students living outside the designated attendance area. Post-closure enrollments for both the control and closure schools are taken from the resident location computer files and include only those students known to be living within the boundaries existing at the time of closure and attending a Seattle Public school. Unless stated otherwise, these enrollments are also for October 1 of the indicated year.

Table 3.01 (continued)

[c] The holding power ratio is simply the ratio of enrollments for the indicated years. It gives some index of gain or loss over the time period. Ratios greater than 1.00 indicate a gain and ratios less than 1.00 indicate a loss.

[d] Interlake's enrollment for 1966 was adjusted down by 25 students to account for the students transferred into Interlake from the Summit area. Decatur and Maple Leaf were adjusted downward by 61 and 55 respectively based upon known voluntary racial transfers from Central Area schools. Mann and Leschi enrollments were increased by 170 and 106 students respectively to account for the reassignment of Summit students beginning in 1965.

[e] Interlake's enrollment for 1970 was adjusted down by 12 students to account for the students transferred into Interlake from the Summit area. Decatur and Maple Leaf were adjusted downward by 28 and 50 students respectively based upon known voluntary racial transfers from Central Area schools. The resident location enrollments for Mann, Minor, and Leschi are actually 96 percent (the City-wide ratio of October/June enrollments for the year 1970) of those recorded for June 1970 in the three schools.

[f] The Georgetown and Concord enrollments for 1974 are those reported for June 1974 in the resident location computer files.

[g] The Minor enrollment drop between 1966 and 1970 was due partly to the termination of special programs which had attracted North-end students into the school in the mid-sixties. Enrollment records for the period do not permit an accurate accounting of students living within the Minor area during the 1960's.

In the case of Decatur-Maple Leaf, we see in Table 3.01 a consistently lower holding power ratio at Maple Leaf in the period preceding the Decatur closure threat. The period following the threatened closure is only one year and it therefore is not possible to make any reliable statement regarding post-closure impacts. Decatur did lose 66 students between October 1974 and and October 1975 as contrasted with a loss of only 23 at Maple Leaf, but this single-year difference is difficult to assess, particularly in light of the fact that much of the larger drop at Decatur relates to the loss of a large sixth grade from 1974-75 and the addition of an extremely small kindergarten group in 1975-76.

The pattern of enrollment decline in the Georgetown area was well established prior to the closure in 1971. This decline very much parallels the drop in total population as reported in Chapter 2. The Mann-Minor-Leschi data suggest a substantial drop at Mann prior to closure, at least relative to the other two schools. The fact that Mann's holding power following closure is considerably higher than for the other two schools suggests a rather inconclusive pattern of change in that general area of the City. It certainly lends no support to Hypothesis #1 which suggests a more rapid decline during the period following closure. Actually, the tremendous mobility of population in the Mann-Minor-Leschi area during the late sixties and the shifting of enrollments for both mandatory and voluntary bussing programs make it extremely difficult to draw conclusions about either enrollment shifts or their causes. The enrollment records themselves are difficult to interpret due to the fact that boundaries for both Mann and Leschi were changed rather substantially at the time of the Summit closure in 1965. While the enrollment figures of Table 3.01 presumably reflect most of the major changes as mentioned above, it is difficult to know the precise magnitude of certain of the changes occurring during the 1963-70 time period.

While the Summit enrollment pattern has not been the subject of detailed study in this report (due primarily to the fact that no suitable control school was available) and is not included in Table 3.01, it is appropriate to follow-up on an earlier comment (in Profile 2.05) about possible enrollment loss following the Summit closure at the end of the 1964-65 school year. One particular examination of Summit enrollments reveals the following enrollments over the years immediately before and after closure:*

1962-63	240
1963-64	207
1964-65	201
1965-66	132
1966-67	113
1967-68	99
1968-69	71

Because the enrollments in the immediate post-closure period (1965-66 to 1967-68) were extracted from the student records in schools to which Summit students were assigned at the time of closure rather than from the district geographical files (which were not available for this time period), it is impossible to know their reliability. It is always possible that some students living in the Summit area at the time of closure remained living in the Summit area but attended schools other than those to which they were assigned. Even accepting this possible problem with the data reliability, it is interesting that Summit shows such a significant drop in the first few years following closure. While it provides possible evidence for the post-closure enrollment loss predicted by Hypothesis #1, the absence of any control school and the data problems mentioned above seriously limit the certainty of any conclusions relating to school closure impact.

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*Special Report on Summit Enrollments (prepared by the Schools and Neighborhoods Project staff), June 15, 1976.

Mobility of Students in Interlake-Allen and Mann-Minor-Leschi

Of the four groups of closure-control schools covered in the previous section, only in the Interlake-Allen and Mann-Minor-Leschi cases do we find any noticeable differences in post-closure enrollment patterns between closure and control schools. Interlake seems to have a lower holding power than its control school, Allen; and Mann's post-closure holding power is a bit higher than that existing for either Minor or Leschi. Recognizing these interesting patterns of post-closure change, the BSSR study staff decided to conduct a more detailed mobility study in these two school groups--Interlake-Allen and Mann-Minor-Leschi. As a part of this mobility study, two previous efforts to assess closure impacts were reviewed by the staff.

The first of these studies completed in May 1973 by Ron Ubaghs of the University of Washington, examined the out-migration of K-3 students from the Interlake area. This study concluded that only 65 percent of the K-3 students present at Interlake in 1970-71 (the school year immediately preceding closure) resided in the attendance area two years later. This study also pointed to a sizable K-5 enrollment drop in the Interlake area in the years immediately following the closure decision. The data upon which this latter conclusion is based are summarized in Table 3.02. Note that Interlake and the schools to which Interlake students were assigned following closure lost 23 percent in K-5 enrollments over the two-year

Table 3.02

Enrollment Shifts Following Interlake Closure

School Area(s)	K-5 Enrollment[a]		Percent Change
	1970-71	1972-73	
Interlake-Day-Latona-McDonald[b]	1,543	1,188	-23.0
Allen	461	394	-14.5
Seattle District	37,144	31,433	-15.4

[a] The enrollments exclude special education students for both the school and total district categories.

[b] These four schools include the three to which Interlake students were assigned following closure in June, 1971.

period. This contrasts with 14.5 and 15.4 percent declines in Allen and the total Seattle School District. Because the Interlake enrollment figures are not separately identified, it is difficult to draw from this data definite conclusions about the effects of the Interlake closure on comparative enrollment declines in the Interlake and Allen attendance areas. The previously-mentioned 65 percent holding power at Interlake for K-3 students is also difficult to interpret without making some comparisons to similar school neighborhoods within the Seattle District. Such comparisons will be examined at a later point in this presentation; however, some mention should first be made of a 1975 Seattle Public School study of attendance patterns in the Interlake, Mann and Summit areas.

Table 3.03 presents summary data from this second study which involved an analysis of recent K-6 student enrollments residing in the attendance areas for Interlake, Mann and Summit. It is clear that both

Table 3.03

Enrollment Declines in Interlake, Mann, and Summit

Comparison Groups	K-6 Enrollment[a]		
	Year Before Closure	Recent Year[b]	Percent Change
Interlake (1970-1974)	460	323	-29.8
Seattle District (1970-74)	43,344	33,441	-22.8
Mann (1967-1975)	229	228	--
Seattle District (1967-1975)	50,772	32,337	-36.3
Summit (1964-1975)	201	92	-54.2
Seattle District (1964-1975)	49,695	32,337	-34.9

[a] Even though the original report referenced in the text included Special Education in the enrollment figures for the total city, they have been excluded for purposes of this presentation. Both the individual school and district enrollments include regular students only.

[b] The recent year figures relate to the second year as listed for each comparison group. In the case of the closed schools, this figure was derived by plotting enrollments into the geographical attendance area existing for the school at the time of closure.

the Interlake and Summit school areas declined in enrollment following closure at rates faster than the City-wide average. While the Mann area is shown to have experienced no change in total enrollment over the 1966-75 period, this is not actually the case. After compensating for the 170 students bussed out of the Mann area beginning in 1965-66 and using a revised figure obtained from the Computer Center for 1975, we find that the appropriate enrollments for Mann are 404 in 1966 and 374 in 1975; hence, an actual change of -7.4 percent. This is, of course, still a much smaller loss than the -36.3 percent change in the Seattle District. Whether the faster rates of decline in the Interlake and Summit areas can be attributed to school closure remains problematical, particularly in light of the lesser loss rate in the Mann area and the patterns of enrollment change existing in the Interlake and Summit areas prior to the closure decisions. Particularly in the Summit area, both population and enrollment declines were evident well before the school closure in 1965. (This Summit enrollment pattern for 1962-1968 was in an earlier section of this chapter.)

Because this second study (conducted by the Seattle District Planning, Research and Evaluation Department), summarized in Table 3.03, dealt only with total enrollment figures and made no effort to isolate the size or characteristics of incoming and leaving students, the study staff for the Neighborhood Impact Study has made a special effort to examine these latter patterns in two of the closure-control areas--Interlake-Allen and Mann-Minor-Leschi. In both cases, the mobility analysis involved tracing leaving students in closure and control schools in selected grade levels over the three years immediately following closure. Students moving into the closure school attendance areas were more difficult to locate and the analysis for this group was consequently less extensive and involved only one or two grade levels in each of the school groupings.

Table 3.04 summarizes the out-migration patterns for grades 3-4 during the three years following the Interlake closure. Notice that the attendance areas for both Interlake and Allen have been divided into three groupings. The immediate school area includes all students living in census tracts within approximately one-fourth mile of the school site. The general school area group includes all those residing within approximately one-half mile of the school site (including those in the immediate school

Table 3.04

Out-Migration Patterns at Interlake-Allen, Grades 3-4
(expressed as percent of resident student group)

Residential Group/School		Number of Students[a]	Year 1 - Fall, 1971			Year 2 - Fall, 1972			Year 3 - Fall, 1973		
			Same School	Other Public School in Seattle	Outside Seattle District[b]	Same School	Other Public School in Seattle	Outside Seattle District[b]	Same School	Other Public School in Seattle	Outside Seattle District[b]
Immediate School Area	Interlake	33	27 81.8	1 3.0	5 15.2	22 66.7	2 6.0	9 27.3	21 63.6	3 9.1	9 27.3
	Allen	30	25 83.3	0 0.0	5 16.7	18 60.0	1 3.3	11 36.7	14 46.7	3 10.0	13 43.3
General School Area	Interlake	73	60 86.3	2 2.7	11 15.0	43 58.9	3 4.1	27 37.0	42 57.5	4 5.4	27 37.0
	Allen	86	63 73.3	5 5.8	18 20.9	50 58.1	10 11.6	26 30.3	39 45.3	12 14.0	35 40.7
Total Attendance Area	Interlake	130	108 83.1	6 4.6	16 12.3	84 64.6	9 6.9	37 28.5	74 56.9	13 10.0	43 33.1
	Allen	146	109 74.7	8 5.5	29 19.8	86 58.9	17 11.6	43 29.5	72 49.3	15 10.3	59 40.4

[a] This represents the number of regular resident students (with test scores) enrolled in grades 3-4 in October, 1970. Test scores were found for all but eight and eleven students at Interlake and Allen respectively.

[b] This includes students who are known to have left the attendance area and who did not enroll in another Seattle Public School; it does include a few students who enrolled in private or parochial schools in the City of Seattle.

area group). The total school area group includes the total grade 3-4 enrollment residing in the two school attendance areas in 1970-71, the year immediately preceding closure of Interlake. Map 3.01 identifies the boundaries of the immediate, general, and total school attendance areas for Interlake and Allen. More detailed data and maps are included in Attachment 3A.

We note in Table 3.04 that the overall holding power of Interlake during the years following closure exceeds that of Allen. This more favorable holding power for Interlake is even stronger in the immediate school area where the 63.6 percent of students remaining in Interlake in the fall of 1973 compares to only 46.7 percent for Allen. If Allen is a good control area for Interlake (i.e., the two areas are similar in every respect except the event of school closure), we cannot in any way conclude that the act of closing Interlake School led to a major out-migration of public school students from the Interlake School area. Despite this greater holding power for Interlake, it is important to note that Interlake's attractiveness to new families with school-age children during the years immediately following closure was apparently less than that of Allen. This conclusion is based upon the fact that the higher holding power of Interlake (relative to Allen) was coupled with a larger percentage reduction in K-6 resident enrollments in the Interlake area during the years immediately following closure. These relative reductions in K-6 enrollment during the years following closure are shown in Table 3.05. Notice that the percentage decline in the Interlake area is considerably greater than that observed in Allen. Since no noticeable reduction in birth rates (relative to Allen) was observed in the Interlake area prior to this period and no apparent shifts occurred in parochial and private school patterns,

MAP 3.01

IMMEDIATE, GENERAL AND TOTAL ATTENDANCE AREAS FOR INTERLAKE AND ALLEN

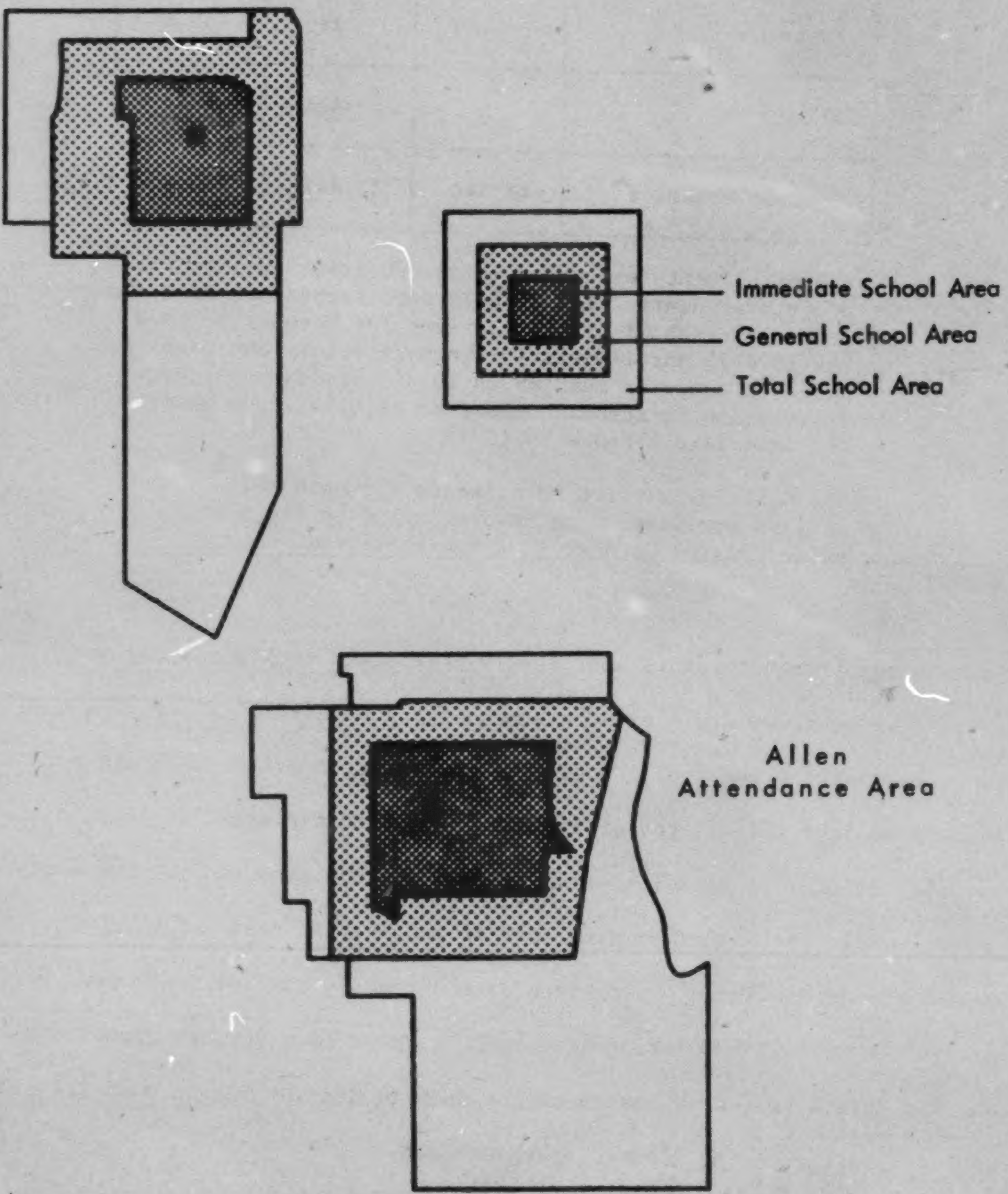

Interlake Attendance Area
Immediate School Area
General School Area
Total School Area
Allen Attendance Area

Table 3.05

Interlake-Allen Enrollments, Grades K-6

School Area	K-6 Enrollments[a]		
	1970-71	1974-75	Percent Change
Interlake	460	296	-35.6
Allen	542	415	-23.4
Seattle District[b]	43,344	33,441	-22.8

[a] The enrollments exclude special education and special program students. The 1970-71 enrollments are from the respective school principal files for October 1, 1970. The 1974-75 enrollments for both Interlake and Allen are based on computer runs which locate student residences in relation to school boundaries existing just prior to the Interlake closure in 1971.

[b] The Seattle District enrollments for both 1970-71 and 1974-75 are based upon reports filed by the school principals on October 1 of the indicated years.

such an enrollment shift is most likely attributed to Allen being more attractive to newer families with school-age youngsters. We can reasonably conclude that the event of school closure in the Interlake area did not lead to an immediate flight of families living in the area (at least relative to the similar school area of Allen), but the closure did apparently serve to make the Interlake area less attractive to newer families with children. If continued, this trend as observed in the Interlake area will change the overall population structure in favor of older age groups. Whether such a long-term change can be said to destroy the community is of course a matter of individual interpretation.

This particular enrollment shift in Interlake, while potentially important in showing an impact of closure, needs to be interpreted in relation to patterns existing prior to closure and in relation to enrollment shifts in other schools in the immediate Interlake area. First of all, while it is true that Interlake experienced a greater enrollment loss relative to Allen in the years immediately following closure (see Table 3.05), it is also important to remember that this general pattern existed in the time period just before closure (see Table 3.01). It is also true that the greater Interlake community (including the Interlake, Day, Latona, and McDonald areas) experienced a post-closure enrollment loss considerably greater than that observed in the Allen area (see Table 3.02). These latter points simply have to be considered as a background for interpreting the finding that Interlake did experience (relative to Allen) a larger drop in total enrollment, though not a greater exodus of resident students, in the years following its closure.

The same type of comparison of out-migration in the Mann-Minor-Leschi schools is presented in Table 3.06. Map 3.02 shows the location of immediate, general and total attendance areas for each of the three schools and more detailed data and maps are found in Attachment 3B. The closure school (Mann in this case) again seems to have a somewhat higher holding power than do the other two schools. Note that 62.5 percent of the Mann students are still residing in the Mann attendance area in the fall of 1970; the comparable figures for Minor and Leschi are 55.0 and 48.1 percent. This same holding advantage stands up in the area immediately surrounding the Mann School, where the percents remaining in the fall of 1970 in the three school areas are 65.1 in Mann, 48.5 in Minor and 47.1 in Leschi. Because these data represent only one-half of the resident students in the

Table 3.06

Out-Migration Patterns at Mann-Minor-Leschi, Grades 2-4
(expressed as percent of resident student group)

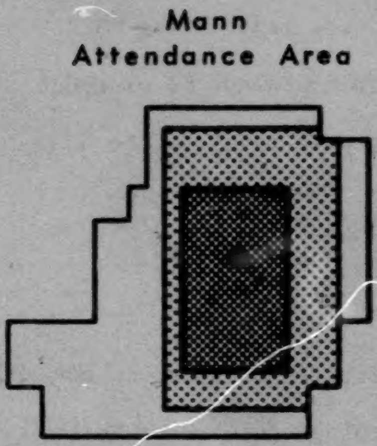
Residential Group/School		Number of Students[a]	Year 1 - Fall, 1971			Year 2 - Fall, 1972			Year 3 - Fall, 1973		
			Same School	Other Public School in Seattle	Outside Seattle District[b]	Same School	Other Public School in Seattle	Outside Seattle District[b]	Same School	Other Public School in Seattle	Outside Seattle District[b]
Immediate School Area	Mann	43	39 90.6	2 4.7	2 4.7	33 76.7	8 18.6	2 4.7	28 65.1	14 32.6	1 2.3
	Minor	33	29 87.9	4 12.1	0 0.0	20 60.6	11 33.3	2 6.1	16 48.5	12 36.4	5 15.1
	Leschi	34	28 82.4	6 17.6	0 0.0	19 55.9	14 41.2	1 2.9	16 47.1	14 41.2	4 11.7
General School Area	Mann	54	49 90.7	3 5.6	2 3.7	43 79.6	9 16.7	2 3.2	37 68.5	16 29.6	1 1.9
	Minor	93	75 80.6	16 17.2	2 2.2	56 60.2	29 31.2	8 8.6	46 49.5	35 37.6	12 12.9
	Leschi	94	75 79.8	19 20.2	0 0.0	54 57.4	36 38.7	4 4.3	43 45.7	39 41.5	12 12.8
Total Attendance Area	Mann	64	55 85.9	4 6.2	5 7.9	48 75.0	10 15.6	6 9.4	40 62.5	23 35.9	1 1.6
	Minor	129	104 80.6	23 17.8	2 1.6	84 65.1	37 28.7	8 6.2	71 55.0	43 33.3	15 11.7
	Leschi	106	85 80.2	21 19.8	0 0.0	62 58.5	40 37.7	4 3.8	51 48.1	42 39.6	13 12.3

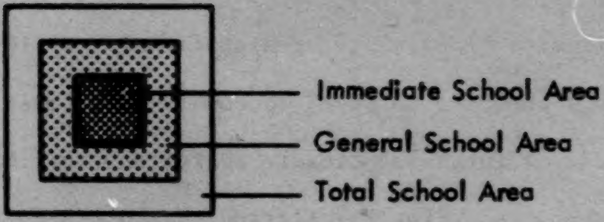
[a] This represents the number of regular resident students (with test scores) enrolled in grades 2-4 in October, 1966. Test scores were available for only half of the regular resident students in each of the three schools.

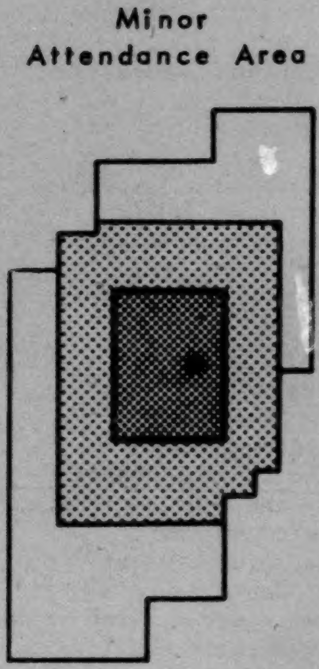
[b] This includes students who are known to have left the attendance area and who did not enroll in another Seattle Public School; it does include a few students who enrolled in private and parochial schools in the City of Seattle.

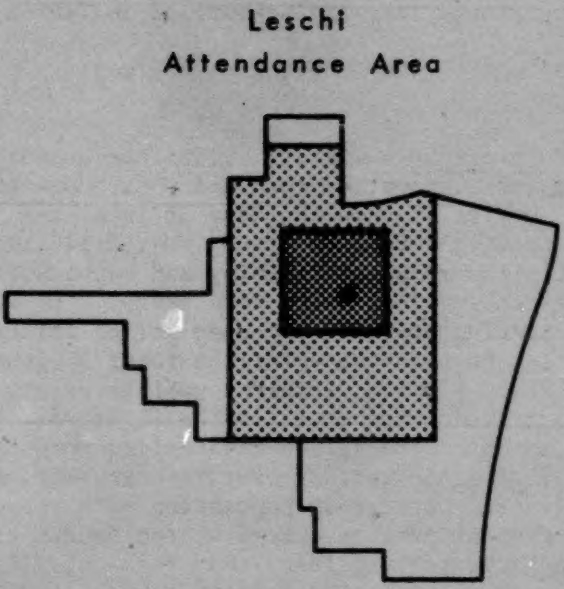
MAP 3.02

IMMEDIATE, GENERAL AND TOTAL ATTENDANCE AREAS FOR MANN, MINOR AND LESCHI


Mann
Attendance Area


Immediate School Area
General School Area
Total School Area


Minor
Attendance Area


Leschi
Attendance Area

indicated grade levels and because the student records kept during this period (1966-70) were not as complete, the analysis could not be extended to a detailed comparison of overall post-closure growth rates in the several schools.

Mobility of Students and Achievement Test Scores

In examining the question of student mobility in closure and control schools, it makes sense to ask two questions regarding achievement test scores. First of all, did students moving out of the attendance area following closure differ significantly in their achievement levels from the group choosing to stay? Secondly, did those students choosing to stay in the area following closure suffer any noticeable decline in achievement as a result of being transferred to a different school? Beginning with the first of these questions, the study staff compiled test data on all students residing in Interlake-Allen and Mann-Minor-Leschi in the year preceding the closure. These data are summarized in Tables 3.07 and 3.08 respectively and the results are analyzed as follows:

Interlake---Overall, Interlake students scored higher on both reading and mathematics than did their counterparts in the control school, Allen. Notice that in the case of Interlake, both third- and fourth-grade groups leaving during the first year following closure were different (slightly lower in both reading and mathematics) than the total student group attending just prior to closure. The scores for students in both grades leaving over the two-year period following closure, however, were not different than those for the total students attending Interlake prior to closure. A quite different pattern exists in Allen, with the third graders leaving the school in the first year tending to score slightly higher in both reading and mathematics than those staying. Again, the third-grade group leaving over the two-year period following closure resembles the base group population with respect to test scores. A somewhat different pattern occurs at the fourth grade in Allen, with the leaving group scoring lower than those staying in both reading and mathematics. This holds true for the groups leaving during the first year and the first two years following closure. None of the differences presented in Table 3.07 (except those showing Interlake students generally to score

Table 3.07

Achievement Test Scores at Interlake-Allen, Grades 3-4
(expressed as average percentile for grade level group)

Student Group		Number of Students in Base Year (1970-71)	Average Percentile[a]					
			Reading[b]			Mathematics[c]		
			Base Year	Left During Year 1	Left During Years 1 and 2	Base Year	Left During Year 1	Left During Years 1 and 2
Grade 3	Interlake	71	58.8	15 54.1	31 60.8	53.1	15 44.9	31 51.4
	Allen	73	49.1	13 54.5	25 47.8	39.0	13 44.2	25 36.7
Grade 4	Interlake	59	50.4	7 46.9	15 50.9	43.5	7 36.0	15 44.8
	Allen	73	40.3	24 37.5	35 37.3	37.3	24 33.1	35 32.2

[a] The scores are average percentiles for the designated groups of students. The number of students in each of the "leaver" groups is indicated in the upper left corner of the appropriate section of the table.

[b] The reading percentiles are a reading composite score on the Metropolitan Achievement Test. Grade 3 is based upon the Primary II version of the test and Grade 4 is the Elementary version.

[c] The mathematics percentiles are a composite math score on the Metropolitan Achievement Test. Grade 3 is again the Primary II version and Grade 4 the Elementary.

Table 3.08

Achievement Test Scores at Mann-Minor-Leschi, Grades 2-4 (expressed as average percentile for grade level group)

Student Group		Number in Base Year (1967-68)	Average Percentile[a]					
			Reading[b]			Mathematics[c]		
			Base Year	Left During Year 1	Left During Years 1 & 2	Base Year	Left During Year 1	Left During Years 1 & 2
Grade 2	Mann	25	24.3	$\boxed{6}$ 15.3	$\boxed{8}$ 13.5	--	$\boxed{6}$ --	$\boxed{8}$ --
	Minor	51	45.5	$\boxed{11}$ 44.8	$\boxed{24}$ 43.8	--	$\boxed{11}$ --	$\boxed{24}$ --
	Leschi	32	30.7	$\boxed{5}$ 17.4	$\boxed{7}$ 17.1	--	$\boxed{5}$ --	$\boxed{7}$ --
Grade 3	Mann	18	24.8	$\boxed{1}$ 11.0	$\boxed{4}$ 17.0	--	$\boxed{1}$ --	$\boxed{4}$ --
	Minor	42	44.7	$\boxed{6}$ 45.8	$\boxed{10}$ 44.3	--	$\boxed{6}$ --	$\boxed{10}$ --
	Leschi	39	37.8	$\boxed{6}$ 42.2	$\boxed{14}$ 35.9	--	$\boxed{6}$ --	$\boxed{14}$ --
Grade 4	Mann	21	23.5	$\boxed{2}$ 42.5	$\boxed{5}$ 28.5	17.9	$\boxed{2}$ 12.5	$\boxed{5}$ 8.4
	Minor	36	32.5	$\boxed{7}$ 30.3	$\boxed{11}$ 26.5	29.2	$\boxed{7}$ 24.7	$\boxed{11}$ 22.7
	Leschi	35	25.9	$\boxed{9}$ 32.9	$\boxed{19}$ 33.3	17.2	$\boxed{9}$ 23.4	$\boxed{19}$ 21.7

[a] The scores are average percentiles for the designated groups of students. The number of students in each of the "leaver" groups is indicated in the upper left corner of the appropriate section of the table.

[b] The reading percentiles are a reading composite score on the Metropolitan Achievement Test. Grade 2 is based upon the Primary I version, Grade 3 on the Primary II version, and Grade 4 on the Elementary version.

[c] The mathematics percentile scores for Grade 4 represent a composite math score on the Elementary version of the Metropolitan Achievement Test.

higher than those from Allen) proved to be statistically significant* at the .05 level; hence, one must conclude that no particular differences in achievement patterns exist between students leaving the area following the closure event and those choosing to stay in the attendance area. There is certainly no support for the proposition that higher-ability students are more likely to move out of an area during the first year following closure. Some effort was made to examine the achievement patterns of students moving into the area following the closure event, but the numbers of students for whom comparable test scores could be found was too small to make any valid comparisons.

Mann-Minor-Leschi---It should be noted that reading tests only were available for the second- and third-grade students in each of the three schools involved in this comparison. We note in Table 3.08 that second- and third-grade students leaving the Mann area in the years immediately following closure had lower test scores than their counterparts choosing to stay in the area. No such pattern prevailed for the fourth-grade group at Mann. The small numbers involved in the various student groupings along with the fact that only half of the resident student test records could even be located make it impossible to establish any particular significance to the differences noted in Table 3.08. We simply conclude that no case can be made for an exodus of more able students following the event of school closure.

In looking at the second question, namely, the possible affect of transfer on students choosing to remain in the closed school area, we are limited to the Interlake-Allen case. Reliable pre- and post-test data were simply not available for a sufficient number of students in Mann-Minor-Leschi. Reviewing the data of Table 3.09, we note that there is no consistent difference in the Interlake and Allen students residing in their respective areas following the closure decision at Interlake. While there was a relative loss for Interlake's third-grade students in mathematics, this is offset by slight gains for the Interlake fourth-grade students in both reading and mathematics. From these data, it is impossible to conclude that there is any appreciable damage to those students transferred to Day, Latona and McDonald following the Interlake closure.

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*Raw scores were used in these tests for statistical significance. As an aid to the reader, average percentiles are presented in Tables 3.07, 3.08 and 3.09.

Table 3.09

Changes in Achievement Test Scores[a] for Interlake-Allen Students
(expressed as average percentile for grade level group)

	Student Group	Number of Students	Reading			Mathematics		
			Pre-Closure Average	Post-Closure Average	Change	Pre-Closure Average	Post-Closure Average	Change
Grade 3	Interlake[b] (to Day-Latona-McDonald)	52	60.0	53.7	-6.3	54.3	45.8	-8.5
	Allen	51	49.1	40.8	-8.3	40.9	42.0	+1.1
Grade 4	Interlake[b] (to Day-Latona-McDonald)	36	49.1	56.3	+7.2	43.8	45.6	+1.8
	Allen	30	43.3	49.8	+6.5	41.7	40.5	-1.2

[a] The achievement test results in this table are based upon Metropolitan Achievement Tests administered in 1970-71 (pre-closure for both grades 3 and 4), 1971-72 (post-closure for grade 3), and 1972-73 (post-closure for grade 4). Since different versions of the test and norming groups were used at the differing time periods, only the comparative changes in closure and control school by grade level are useful.

[b] The Interlake group consists of those students who remained living in the Interlake attendance area following closure but who were transferred to Day, Latona, or McDonald beginning in the 1971-72 school year.

School Enrollment Changes and School Closures

In this chapter, the BSSR study staff analyzed enrollment shifts both before and after school closures. Of the four school closures considered in the analysis, only the Interlake case provides support for the post-closure decline implied by Hypothesis #1. Even this support is limited to a somewhat higher rate of overall enrollment decline following closure and does not in any way suggest an immediate exodus of students resident to the area at the time of the closure decision. As a matter of fact, the rate of exodus from Allen (the control school) in the years immediately following the Interlake closure was slightly higher than in the Interlake area during the same time period. Because this pattern of greater overall enrollment decline in the Interlake area actually existed to a lesser degree even prior to the closure decision, this conclusion of support for post-closure decline must be interpreted with some degree of caution; nonetheless, on balance, one must agree that the Allen attendance area was distinctly more attractive in the years following Interlake's closure to families intending to send their youngsters to public schools. Whether this represents a definite decline in overall community structure is, of course, debatable.

The Georgetown enrollment changes before and following closure provide overall support for Hypothesis #2, the closure being an expected result of prior change in community structure. Georgetown enrollment declined over 50 percent in the five years preceding closure, a trend apparently caused by the industrial and commercial expansion moving into the community during the late 1960's.

The results are inconclusive in the other two closure situations examined in this chapter of the report. While the pre-closure decline in school enrollment in the Mann area relative to that of Minor and Leschi suggests some support for Hypothesis #2, the questionable reliability of data sources and the interaction of "closure" and "voluntary and mandatory integration" decisions makes any reliable interpretation of trends almost impossible. There is no support for a greater exodus rate from the Mann community following the closure decision and hence no support for Hypothesis #1 in this particular closure case. The post-closure period related to the threatened closure of Decatur is not of sufficient length to make even tentative conclusions and there is certainly no support for pre-closure deterioration in the Decatur community.

Chapter 4

RESIDENTIAL PROPERTY CHARACTERISTICS AND VALUES

In the school profiles of Chapter 2, selected property characteristics (e.g. number of residential units, percent of vacancy in residential units, and percent renter occupied) were charted over the 1960-74 period. This earlier data was available at only three points in time--1960, 1970 and 1974--and was not interpreted in any level of detail. With this in mind, we turn in this chapter to a more complete examination of residential property characteristics and values. This more detailed examination consists of two thrusts. The first is a look at the housing characteristics in school neighborhoods and simply expands upon the data presented in Chapter 2. The second and perhaps more crucial part of this analysis plots sale property turnover rates, assessed value and sale price on sample properties in three of the closure-control groupings. This latter comparison is done on a yearly basis, thereby permitting a more refined examination of possible school closure impacts.

Housing Characteristics in School Neighborhoods

Characteristics of the built environment and the extent to which that environment changes over time are often representative of other quality of life attributes. For example, a physically-deteriorating neighborhood usually (though by no means always) coincides with a highly mobile, low-income population who are primarily renters rather than homeowners. A neighborhood that shows marked physical improvements over time is undergoing an opposite change, usually typified by higher-income homeowners replacing a previously transient population. A physically consistent or stable neighborhood is probably also a socially stable neighborhood.

These generalizations notwithstanding, there is no way using the limited data available through the U. S. Census and Polk Profiles of determining precisely which phenomenon or phenomena are contributing to changes in a neighborhood's housing characteristics. To even suggest that the cause of housing changes found in the study neighborhoods was the closure of a local school would be somewhat naive. Changes in the housing characteristics of urban neighborhoods are a result of ongoing economic, social and political processes, changes in the relative desirability of neighborhoods and desires of movers, and perhaps most importantly constraints placed on the real estate market by those who control the local mortgage market. Because of the complex interrelationships between these various causal factors, we cannot hope to pinpoint in any precise manner the role of school closures in the changing characteristics of neighborhoods. However, by comparing neighborhoods where schools have been closed with neighborhoods which were physically and socially similar prior to closure, some insights into whether or not school closure may have affected housing occupant characteristics and quality may be discovered. If warranted, these suggested relationships could then be subjected to more rigorous analysis to determine the strength of the relationship between school closure and housing relative to other ongoing urban processes.

The data used in this analysis describing the quality of the study neighborhoods have been drawn from four sources. Two of the sources are generally considered objective, though indirect, measures of housing quality and two are totally subjective. They also vary with respect to coverage and representativeness for the school attendance area in question.

Time series data on housing characteristics are drawn from the U. S. Census of Population and Housing for 1960 and 1970 and from the Polk Profiles for 1974. Selected data from these two sources can be found in the tables of Attachment 2B. Subjective information reflecting the visual quality of the study neighborhoods was obtained from physical inspections of each attendance area done in November 1975 as part of the Neighborhood Matching Process conducted by the Schools and Neighborhood Project and from observations in March 1976 by the BSSR study staff. These observations are obviously subject to limitations because of their subjective and untested nature. In some cases the reliability of the visual inspections were tested through discussions with other observers and local real estate agents. We turn now to a summary description of housing characteristics in each of the closure-control groupings and the Summit and Maple areas.

Interlake-Allen---Physical inspection of the Interlake and Allen attendance areas conducted during the Neighborhood Matching Process in late 1975 concluded that the areas were virtually identical with respect to physical housing quality:

> The housing stock seems to be approximately the same age as the Interlake area. The same range of values and size was noted; however, the Allen area appears to have a slightly higher percentage of homes at the upper end of the range . . . . The lot sizes, condition of streets and lack of undergrounding are also similar to the Interlake area.

While this subjective examination appears reasonable, it is important to examine trends in housing characteristics in the two areas. We note in Table 4.01 that trends in the numbers of residential and occupied units are comparable in the two attendance areas during both the pre-closure (1960-70) and post-closure (1970-74) periods. The greater decline in owner-occupied housing in Interlake for the 1960-70 period (9.9 percent decrease in Interlake contrasted with a 3.4 percent loss in Allen) could indicate some slight relative decline during the pre-closure years; however, the

Table 4.01

Changes in Housing Classification in Interlake-Allen*

Classification of Housing Units		1960		1970		Percent Change 1960-70	1974		Percent Change 1970-74
		Number	Percent	Number	Percent		Number	Percent	
Interlake	Residential	2490	(100.0)	2582	(100.0)	+ 3.6	2554	(100.0)	- 1.1
	Occupied	2367	(95.1)	2468	(95.6)	+ 4.1	2414	(94.5)	- 2.2
	Owner	1468	(59.0)	1323	(51.3)	- 9.9	1323	(51.8)	0
	Renter	899	(36.1)	1145	(44.3)	+27.4	1091	(42.7)	- 4.7
	Vacant	123	(4.9)	114	(4.4)	- 7.3	140	(5.5)	+22.8
Allen	Residential	2330	(100.0)	2338	(100.0)	+ 2.5	2375	(100.0)	- 0.5
	Occupied	2237	(95.0)	2295	(96.1)	+ 2.5	2252	(94.8)	- 1.9
	Owner	1542	(66.2)	1490	(62.4)	- 3.4	1520	(64.0)	+ 2.0
	Renter	695	(29.8)	805	(33.7)	+15.8	732	(30.8)	- 9.1
	Vacant	93	(4.0)	93	(3.9)	0	123	(5.2)	+32.2

*Based on U. S. Census (1960 and 1970) and Polk Profile (1974) estimates.

sharp drop in Interlake's vacancy rate (7.3 percent decline contrasted with no drop in Allen) cautions against interpreting this as an indication of decline in overall physical characteristics during the pre-closure period. The relative decline in Interlake's vacant units and the sharper rise in renter occupancy may both be associated with its proximity to the University of Washington during a period of enrollment increase. The proximity of Green Lake (affording both view properties and access to recreation opportunities) to the Allen School could also explain this greater shift toward rental occupancy in the Interlake area.

These same trends seem to hold up in the post-closure time period. Note from Table 4.01 that Interlake's decline in rental units during 1970-74 was less than Allen's (4.7 percent drop in Interlake compared with 9.1 percent in Allen). The fact that this lesser decline in rental housing was not associated with any relative increase in vacant units again cautions against interpreting this as a definite indication of deterioration. The slight visual deterioration observed in the Interlake area relative to Allen is likely attributed to the subdivision of single family residential units into apartment houses. Any association between this slight relative deterioration in the Interlake area and the event of school closure is questionable.

Mann-Minor-Leschi---Horace Mann School, closed primarily as a means to encourage racial integration while also reducing the School District's stock of hazardous school buildings, is located on Cherry Street, between Twenty-third and Twenty-fourth Avenues, in Seattle's Central Area. The two school attendance areas matched with Mann for comparative purposes, Minor and Leschi, also lie within the Central Area and, in fact, share some of the same census tracts. Since Mann School was closed in 1968 and major census data collections occurred in 1960 and 1970, any specific impact on characteristics of residents or housing quality as a result of closure is difficult to ascertain. A look at overall trends in housing in the three areas, however, can give us some insight into trends which have occurred over the 15-year time period (1960-1974) and provide a reasonable base for comparing these trends in the three areas.

An initial observation of the census data presented in Table 4.02 reflects the viability of each area as a residential neighborhood. Two different patterns are exhibited in terms of the number of residential units available for occupancy. Both Mann and Minor show a consistent decline in the number of residential units available between 1960 and 1974 (Mann dropping three percent from 1960 to 1970, and another four percent from 1970 to 1974; Minor showing a more drastic drop, decreasing by 12.5 percent from 1960 to 1970, and another 9.4 percent in the next four years). This indicates that construction of new housing units in Mann and Minor has not kept pace with the demolition of old residences. The Leschi area, on the other hand, increased in the number of residences available from 1960 to 1970 (4.6 percent), and then experienced a net loss in residences between 1970 and 1974. A comparison of 1960 and 1974 data for Leschi shows an overall growth of two percent over the 15 years. Physical inspection of the Leschi neighborhood suggests that the slight drop in residences from 1970 to 1974 is a result of demolitions of deteriorated or dilapidated housing to make room for much higher-priced, new residences.

Table 4.02

Changes in Housing Classification in Mann-Minor-Leschi*

Classification of Housing Units		1960		1970		Percent Change 1960-70	1974		Percent Change 1970-74
		Number	Percent	Number	Percent		Number	Percent	
Mann	Residential	1925	(100.0)	1868	(100.0)	- 3.0	1794	(100.0)	- 4.0
	Occupied	1777	(92.3)	1513	(81.0)	-14.8	1543	(86.0)	+ 2.0
	Owner	896	(46.5)	725	(38.8)	-15.5	788	(43.9)	+ 8.7
	Renter	881	(45.8)	788	(42.2)	-10.6	755	(42.1)	- 4.2
	Vacant	148	(7.7)	355	(19.0	+139.9	251	(14.0)	-29.3
Minor	Residential	4230	(100.0)	3700	(100.0)	-12.5	3350	(100.0)	- 9.4
	Occupied	3810	(90.0)	2990	(80.8)	-21.5	2860	(85.4)	- 4.3
	Owner	1067	(25.2)	925	(25.0)	-13.3	1005	(30.0)	+ 8.6
	Renter	3163	(74.8)	2065	(55.8)	-34.7	1855	(55.4)	-10.2
	Vacant	420	(10.0)	710	(19.2)	+69.0	490	(14.6)	-31.0
Leschi	Residential	1870	(100.0)	1956	(100.0)	+ 4.6	1908	(100.0)	- 2.4
	Occupied	1746	(93.4)	1642	(83.9)	- 6.0	1698	(89.0)	+ 3.4
	Owner	1072	(59.3)	963	(49.2)	-10.2	997	(52.3)	+ 3.5
	Renter	674	(36.1)	679	(34.7)	+ 0.7	701	(36.7)	+ 3.2
	Vacant	124	(6.6)	314	(16.1)	+153.2	210	(11.0)	-33.1

*Based on U. S. Census (1960 and 1970) and Polk Profile (1974) estimates.

An examination of the trends in the number of vacancies shows the three areas to be quite similar. Vacancies increased drastically from 1960 to 1970 in each neighborhood (139.9 percent in Mann, 69.0 percent in Minor, and 153 percent in Leschi). While the Minor area had a much smaller percentage increase in vacancies, it should be observed that it is at least twice as large in terms of residential units available than either Mann or Leschi; thus, the actual increase in number of vacancies is greatest in this area. After 1970 the number of vacancies in each area dropped by approximately 30 percent. It should be remembered that the number of residences available in each area was also declining during this period of time, and therefore, the decline in vacancies does not necessarily indicate a major increase in the net migration into the areas.

If we consider trends in occupancy rates (percent of residential units occupied) to be an indicator of the quality of neighborhoods, then Mann and Minor appear to be quite similar overall; i.e., the percent of residential units in the occupied status shows similar changes in Mann and Minor over the 1960-74 period. While Table 4.02 suggests that Minor had a much greater percentage decrease in number of occupied units than did Mann, it also had a much greater decrease in residential units available. In both areas between 1960 and 1970, the decline in occupied housing units was approximately ten percentage points more than the decline in the total number of residences. After 1970, both areas showed only modest change in number of occupied units, with Mann increasing two percent and Minor decreasing four percent. In both areas, the number of owner-occupied units increased by approximately nine percent between 1970 to 1974, indicating a less transient population was occupying both neighborhoods.

Leschi's pattern of occupancy was a bit different than that observed in Mann and Minor. The period from 1960 to 1970 was marked by what appears to be over-building in Leschi. The number of residential units available increased 4.6 percent, yet the number of occupied units decreased by six percent. This trend was then reversed in the next four years (units available decreased 2.4 percent, as the number of occupied units increased 3.4 percent) as building slowed down, demolition increased, and people moved into the area. Both the number of owner-occupied units and renter-occupied units in the Leschi area increased during this time, unlike the Mann and Minor areas where only owner-occupied units increased. Renter-occupied units comprised approximately 35 percent of the total Leschi residences throughout the 1960-74 time period.

This cursory look at the occupancy rates of all three areas indicates that Mann and Minor are of roughly equal quality and that Leschi has a higher quality than these two. This conclusion is substantiated in a 1970 census analysis of housing quality prepared by the City of Seattle's Department of Community Development entitled "Estimated Housing Quality" in which the Mann and Minor neighborhoods were rated equally as poor overall with a minus two rating (zero being average with a City-wide range of -15 to +15). While over half of Leschi was given the same rating, a significant portion of the Leschi neighborhood received a plus two rating.

Since both the direction and relative magnitude of the trends in housing are consistent in Mann and Minor, and similar in some cases to Leschi, no conclusions can be drawn here concerning the impact of school closure on neighborhood quality. Physical inspection of the housing around Horace Mann School also revealed little impact on the quality of the neighborhood. In fact, it was noted that several new houses are being completed within two blocks of the school.

Georgetown---Georgetown has many unique characteristics as a result of history and relative location that make comparisons with a "control" neighborhood difficult. As a residential neighborhood, Georgetown has had only a minimal future since the late 1950's. Its lone residential housing area is sandwiched between and undifferentiated topographically from heavy industrial neighbors, mostly transportation related. In contrast, Concord, the control neighborhood matched with Georgetown for the purposes of this study, contains a viable residential area which is topographically separated from neighboring industrial users, and has only relatively recently been faced with industrial encroachment. In fact, significant public investments have been made to develop low-income housing in the Concord area since the start of Georgetown's residential decline, especially in the South Park area.

Because of these historical/situational differences, comparisons between the two attendance areas, especially with respect to physical quality, are suspect. The rapid and continual decline in number of residential units and number of occupied units in Georgetown, as shown in Table 4.03, is not comparable to the fluctuating housing situation in Concord. This is perhaps best exemplified through a conversation which occurred with a representative of Airport Realty, located within the Georgetown neighborhood. When asked whether there was any residential housing available for purchase in the Georgetown area, the realtor replied, "Nope. Just for industry. But I can show you some nice inexpensive houses over in South Park." Nine years earlier, to the day, a resident of Georgetown was quoted in The Seattle Times as saying, "You can't get loans or building permits for remodeling in this area. Why would anybody want to loan money to a homeowner whose house is going to be torn down in a few years?" (March 19, 1967).

Decatur-Maple Leaf---Decatur Elementary School in the North-end of Seattle was never actually closed, but merely threatened with closure over a two-month period in 1974, along with six other elementary schools. The closures were not to occur until fall of 1975. Maple Leaf School, with its attendance area adjacent to Decatur, was not similarly threatened. Differences between Decatur and Maple Leaf in terms of physical housing trends are seen in Table 4.04. The two areas exhibit contrasting patterns of change during the 14-year observation period. Decatur showed declines in both the number of residences and occupied housing units between 1960 and 1970. Maple Leaf, on the other hand, exhibited increases in these two categories, particularly during the 1960-70 period. Between 1970 and 1974, the year of threatened Decatur closure, that attendance area saw very slight increase in residential units, both available and occupied. Maple Leaf showed an opposite pattern of similar relative magnitude.

A look at the trends in occupant types in Decatur shows that during the period from 1960 to 1970, the proportion of owner-occupants increased (from 67.8 percent to 80.5 percent). No change in this owner-occupancy

Table 4.03

Changes in Housing Classification in Georgetown-Concord*

Classification of Housing Units		1960		1970		Percent Change 1960-70	1974		Percent Change 1970-74
		Number	Percent	Number	Percent		Number	Percent	
Georgetown	Residential	1609	(100.0)	1098	(100.0)	-31.8	893	(100.0)	-18.7
	Occupied	1435	(89.2)	938	(85.4)	-34.6	697	(78.0)	-25.7
	Owner	665	(41.3)	356	(32.4)	-46.5	346	(38.7)	- 2.8
	Renter	770	(47.9)	582	(53.0)	-24.4	351	(39.3)	-39.7
	Vacant	174	(10.8)	160	(14.6)	- 8.0	196	(22.0)	+22.5
Concord	Residential	1808	(100.0)	1840	(100.0)	+ 1.8	1700	(100.0)	- 7.6
	Occupied	1672	(92.5)	1666	(90.5)	- 0.4	1521	(89.5)	- 8.7
	Owner	1025	(56.7)	861	(46.8)	-16.0	802	(47.2)	- 6.8
	Renter	647	(35.8)	805	(43.7)	+24.4	719	(42.3)	-10.7
	Vacant	136	(7.5)	174	(9.5)	+27.9	179	(10.5)	+ 2.9

*Based on U. S. Census (1960 and 1970) and Polk Profile (1974) estimates.

Table 4.04

Changes in Housing Classification in Decatur-Maple Leaf*

Classification of Housing Units		1960		1970		Percent Change 1960-70	1974		Percent Change 1970-74
		Number	Percent	Number	Percent		Number	Percent	
Decatur	Residential	1158	(100.0)	1053	(100.0)	- 9.1	1061	(100.0)	+ 0.8
	Occupied	1082	(93.4)	1037	(98.5)	- 4.2	1040	(98.0)	+ 0.3
	Owner	785	(67.8)	848	(80.5)	+ 8.0	853	(80.4)	+ 0.6
	Renter	297	(25.6)	189	(18.0)	-36.4	187	(17.6)	- 1.0
	Vacant	76	(6.6)	16	(1.5)	-78.9	21	(2.0)	+31.2
Maple Leaf	Residential	1218	(100.0)	1448	(100.0)	+18.9	1437	(100.0)	- 0.8
	Occupied	1172	(96.2)	1398	(96.5)	+19.3	1393	(96.9)	- 0.4
	Owner	1007	(82.7)	1161	(80.2)	+15.3	1162	(80.9)	+ 0.1
	Renter	165	(13.5)	237	(16.3)	+43.6	231	(16.0)	- 2.5
	Vacant	46	(3.8)	50	(3.5)	+ 8.7	44	(3.1)	-12.0

*Based on U. S. Census (1960 and 1970) and Polk Profile (1974) estimates.

rate was observed between 1970 and 1974. Decatur's vacancy rate (percent of residential units vacant) dropped substantially from 1960 to 1970 and then increased only slightly in 1974. Maple Leaf was a much more stable area from 1960 to 1974. This is evidenced by the fact that numbers of units in the several classifications or characteristics (e.g. owner and renter occupancy, vacancy) maintained a consistent proportional relationship to the total number of residential units.

Since none of these data refer to the post-closure situation, no hypotheses regarding threatened closure effects can be either substantiated or refuted. However, one might speculate that the 9.1 percent drop in residential units between 1960 and 1970 may have contributed to the suggested closure of Decatur. The rebound-type changes observed in Decatur since 1970 appear to be continuing, as physical inspections witnessed housing construction occurring on several sites in the attendance area, all seemingly of higher quality and price than their previously built neighbors.

Summit-Maple---Summit and Maple were closed in 1965 and 1971 respectively. Because of peculiarities associated with these school areas or the decisions on closure, neither school was assigned a control school. The two schools are presented together in Table 4.05 but analyzed separately.

Summit. Prior to closure of the Summit School in 1965, its attendance area, in terms of geographic area included, was probably the largest in the City. It encompassed most of the City's central business district plus the northern part of First Hill and the Summit neighborhood. Much of the attendance area contains very few residential housing units and thus contributed little to the school's population. In 1960 the U. S. Census labeled approximately 20 percent of the housing in this attendance area dilapidated or deteriorating. Though no comparable data were collected in the 1970 Census, a 1970 City estimate judged the overall quality of housing in this area as poor.

The objective data shown in Table 4.05 reflecting physical quality of housing stock show a continuous decline in the number of residential units available within the Summit attendance area. The transient nature of the community is illustrated in the fact that the percent of rental-occupied units exceeds 75 percent in each of the three years for which data is reported. Physical inspection of the area attests to the increasing apartment development at the fringe of the central business district, both as new apartment buildings and as conversions of old single-family residences to apartment units. Because no other neighborhood in Seattle could be matched with Summit, the importance of closing Summit School to this process of declining population and increasing transience cannot be told. However, the nature of the area and the fact that the deterioration process has been ongoing since at least the mid-1930's suggests that changes in the physical quality of the neighborhood probably cannot be attributed to the school closure. In fact, Summit School was closed for precisely these reasons: declining school-age population in its attendance area and inadequacy, presumably because of its age,

Table 4.05

Changes in Housing Classification in Summit-Maple*

Classification of Housing Units		1960		1970		Percent Change 1960-70	1974		Percent Change 1970-74
		Number	Percent	Number	Percent		Number	Percent	
Summit	Residential	19,400	(100.0)	14,770	(100.0)	-23.9	13,500	(100.0)	- 8.6
	Occupied	16,160	(83.3)	12,745	(86.3)	-21.1	11,640	(86.2)	- 8.7
	Owner	757	(3.9)	576	(3.9)	-23.9	445	(3.3)	-22.7
	Renter	15,403	(79.4)	12,169	(82.4)	-21.0	11,195	(82.9)	- 8.0
	Vacant	3,240	(16.7)	2,025	(13.7)	-37.5	1,860	(13.8)	- 8.1
Maple	Residential	1,600	(100.0)	1,630	(100.0)	+ 1.9	1,635	(100.0)	+ 0.3
	Occupied	1,550	(96.9)	1,562	(95.8)	+ 0.8	1,515	(92.7)	- 3.0
	Owner	1,255	(78.4)	1,248	(76.6)	- 0.6	1,226	(75.0)	- 1.8
	Renter	295	(18.5)	314	(19.2)	+ 6.4	289	(17.7)	- 8.0
	Vacant	50	(3.1)	68	(4.2)	+36.0	120	(7.8)	+76.5

*Based on U. S. Census (1960 and 1970) and Polk Profile (1974) estimates.

of the school facility and site. While it might be argued that the school closure contributed further to this ongoing decline, only very limited data (the enrollment analysis discussed in Chapter 3) has been found to support this argument.

Maple. The Old Maple School was closed in early 1971. However, closure of this school was predicated upon completion of the New Maple School, at the northwestern corner of the old attendance area. Students residing in the Old Maple, Georgetown, and Beacon Hill attendance areas were reassigned to the New Maple School. Because the new school is separated from the former Georgetown area by I-5, Union Pacific's railroad yards, and other heavy industrial land users, transfer to New Maple was a significant change for Georgetown-based families. However, the Old Maple attendance area did not, in fact, lose its neighborhood school, but merely replaced it at a less central point (relative to the old attendance area) with a newer facility.

The number of residential units during the two periods for which objective data are available has been increasing very slightly (see Table 4.05). A 1.9 percent increase in residential units is shown between 1950 and 1970 and an additional 0.3 percent from 1970 to 1974. Notice, however, that the number of vacant units for the neighborhood has risen dramatically, nearly doubling since 1970. Without a geographically and socioeconomically similar control neighborhood for comparison, the cause of this change cannot really be determined. It could have been related to closure of Old Maple School, but is more likely merely a continuance of the general trend toward decreasing numbers of middle-income families in the City (as illustrated in the other closure and control neighborhoods).

Physical inspections suggest that Maple is a relatively newer neighborhood than most of the others studied. For the most part, the area is very well maintained and composed primarily of single-family residences. Many of the homes have views across the industrial area toward the Olympics. Adequate access to play areas exists from almost any point in the neighborhood. A few small neighborhood businesses, though no real business districts, are scattered through the area including a teenager-oriented cluster of stores across from Cleveland High School. A small vacant commercial building is located on the southeast corner of Lucille and Sixteenth Avenue South, one block from the Old Maple School. Contact with the realtor handling the property revealed that the property has been vacant for at least a couple of years, but that it is doubtful that closure of Old Maple School had anything to do with the previous owner's vacating the property.

Comparison of Residential Property Values

In the previous section, the several closure-control school neighborhoods were compared in terms of occupancy characteristics of housing. Because these comparisons were based almost entirely on just three points in time (namely, 1960, 1970 and 1974), it was difficult to draw any specific conclusions relating to possible school closure impacts. Neither did these data reveal anything of the relative changes in property turnover and value between the closure and control neighborhoods. To gain at least partial answers to school closure impacts on these important variables, the BSSR staff selected a sample of approximately 1,200 residential properties in three school groupings--Interlake-Allen, Mann-Minor-Leschi, and Decatur-Maple Leaf. By charting both sales and assessed values over the 1950-74 period on these sample properties, it was possible to make certain closure-control area comparisons in the pre- and post-closure periods for each of the three school groupings. These comparisons along with summary conclusions are presented in this section of the report. The comparison begins with a general discussion of factors influencing the cost of land and housing.

Factors Influencing Property Values---Property values are market signals of changes in demand for land use and the services generated by any improvements on that land. The demand for land and improvements, including housing, is determined or affected by economic and social variables, including those discussed in preceding chapters, e.g., family size, age or life style, income and employment. The supply of housing is relatively inelastic in the short run; that is, the rate of addition to the standing stock is small relative to the inventory. As a consequence, market signals measured by changes in housing prices are sensitive to demand determinants. If the market mechanism is responsive, supply will increase but will lag demand increase. The process is not symmetrical--as demand declines, the standing stock of dwellings cannot decrease but values may fall.

As a capital asset, housing or dwelling units have long physical lives; they tend to deteriorate slowly but at an increasing rate over time.

This rate is reflected in increasing costs to maintain the quality of the stock as the inventory increases in amount and age. The depreciation or loss in value is not just deterioration of the structural characteristics of the house, but also obsolescence of design and style.

In addition to these property-related factors, there are determinants external to the structure that affect value or price. These are sometimes called "neighborhood effects" and are external in the sense that they affect values of other houses in the neighborhood. While these effects (including streets, sewers, shops and public facilities) are not generally within the control of the single owner-occupant, each occupant has a marginal impact on these neighborhood effects. This marginal impact occurs both from participation in decision making on joint neighborhood effects and from the upkeep on individual properties. In relation to this matter of property upkeep or maintenance, it is important to realize that each owner does make a marginal neighborhood contribution by the maintenance of his/her property. A poorly-maintained house, for example, contributes not only to the structural deterioration and obsolescence of that property, but it also contributes to a general neighborhood deterioration.

Investigators of housing values, or the hedonic price, have attempted to separate the joint effects of individual housing condition from the other neighborhood effects which are adjusted only by collective action. A public school as a public investment is of the latter type in that it results from collective decision making by a public entity. The property owner may or may not maintain his house, but he does not have the requisite right to maintain or close the school except as a citizen. The household may, however, select a residence within a given school attendance area. In this respect, the educational services of the school are among the determinants of decisions on housing locations (at least for those desiring school services) and hence the price or value of residential property. In turn, this demand, at least in theory, has an impact on the overall land market for which land values are interdependent (each parcel being valued relative to another or alternative site).

Inasmuch as property values measure changes in value of land and improvements over time, they should include any impacts created by school location. This impact, however, can be either positive or negative for selected potential buyers, and it is also only one of several neighborhood effects. Its relative importance to the market, and weight in the overall price, depends on the significance of other determinants and effects. Police and fire protection, sanitation services, streets, sidewalks, street lighting, traffic controls, landscaping and parks, and accessibility to employment and other activities are critical and may be more significant than the school, especially if alternative schools are available within a reasonable distance and transportation costs are relatively low.

The dynamics of the urban economy and social organization tend to reduce the impact of the local school on neighborhood residential property values. The growth and development of the periphery of central cities rather than the redevelopment or recycling of existing neighborhoods has had such a great impact that the effect of the school on property values can be largely offset by other neighborhood effects. If the number and location of elementary schools were held constant throughout a metropolitan area, the school effect on residential values would likely increase substantially. Population data for the Seattle area, however, indicate that young households, and especially those with school-age children or younger, have already moved to suburbs where more desirable housing (i.e., less deterioration and obsolescence) is available, and where public improvements including schools are at least equal to those existing in older neighborhoods of the City. Thus, the weight or significance of the school location within the City is lessened by the attractive options available outside the Seattle District.

Returning to the question of the impact of school closure on neighborhood residential property values, the plausible answer is that characteristics of present and potential occupants will determine the impact. If school location is a component of their demand schedule (i.e., if the household has actual or potential school-age children), school closure should have a significant impact--the significance of course affected by accessibility to alternative schools. But, if the present and potential occupants do not include the local school in their demand schedule or include it only as a negative factor then, of course, school closure is probably of little or no significance. Accordingly, property value changes in school neighborhoods may or may not fluctuate in response to school closure. Clearly, if the neighborhood was deteriorating, school closure might simply accelerate the change of occupants from those with a significant demand for the school to those who can afford the housing value and who do not include the school as a significant component of their value structure. If large numbers of potential occupants of this latter type exist, this particular impact need not result in a noticeable change in the property values of the area.

Accepting the existence of multiple factors in the determination of property values and the distinct possibility that impacts of school closure may not even show up in property value change (due to the interaction of potential occupant value structures), it is still of interest to examine the overall changes in property values in closure and control school areas and to make a preliminary estimate as to any neighborhood impacts associated with the closure decision. It is also interesting to assess the relative rates of property turnover in the closure and control neighborhoods, thus gaining some possible indication of rate of change in the status of occupants (i.e., a possible indicator of a change from occupants who value positively the school presence in the community to those who feel the school is a neutral or negative factor).

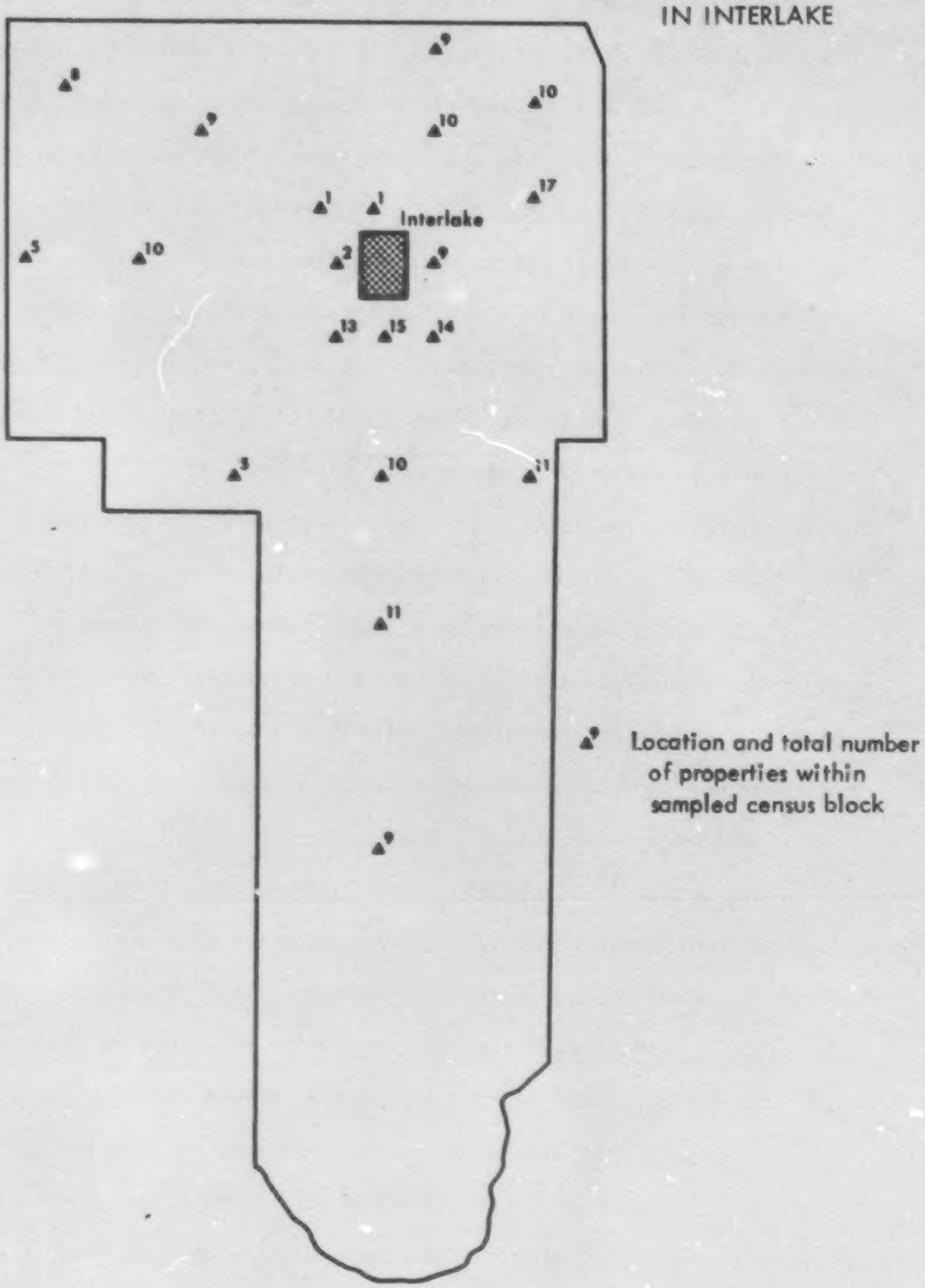
Recognizing these interests, the study staff provides in this section of the report a detailed look at property turnover rates, land and improvement assessed values, and property sales records. While assessed value of land is sometimes viewed to be the best single indicator of change in property value (because land value is based, at least theoretically, on the most productive use of the land and is not greatly influenced by changes in type or condition of housing), the fact that such assessments are not made on a yearly basis and are subject to sudden changes in the assessment practice itself make them only minimally useful in this particular report. For these reasons, then, property sales value (measured in dollars per square foot of land) is perhaps the most important of the indices to be examined. While this particular index must be based upon only a few sales in any given year, it does eliminate the effects of assessment practice and assures a separate measure for each of the years involved in the time series. Before reviewing the important trends in property values, it is important to outline the data files used as the basis for the several comparisons.

Data Files on Property Assessments and Sales---Residential property assessments and sales data were obtained from the records of the King County Assessor. These data were coded and transferred to data cards for purposes of analysis. Such data are costly, but alternative sources were not sufficiently suitable or available. The basic unit for data analysis was the census block; these are identical to actual blocks circumscribed by streets and mapped for identification on the Kroll maps. In each of the closure and control areas, four blocks contiguous to the school were included. Other sample blocks were selected along streets that approximated a bisection of each quadrant around the school. The precise block numbers for all school attendance areas and the number of properties selected from each are listed in Attachment 4A. Map 4.01 shows the approximate location of sample blocks in the Interlake School area. A similar geographical spread was used in the other schools. Suffice it here to mention that a total of 1,203 properties were examined in the seven closure and control schools included in this aspect of the study. Data on each property include year of assessment, land and improvement assessed value, sale prices, dates of sales, zoning, site area, improvement area, number of stories and rooms in the structure. A complete listing of the data categories according to card format is found in Attachment 4B. Data from 1950 through 1974 were included. This relatively long time period was used as a means of identifying both short- and long-run impacts of school closure.

All properties included in the file were residential (defined here as one to four family dwellings) in character and most were currently classified in the single-family use category. This primary dependence on single-family properties minimizes the problem of comparing values of substantially different housing types in the different comparative areas. Comparisons using land assessment values were made on a dollar per square foot of land basis, thereby reducing the effects of varying site sizes in the several attendance areas. The common unit of measure used in connection

MAP 4.01

LOCATION OF SAMPLE CENSUS BLOCKS IN INTERLAKE


Interlake
9
8
10
9
10
17
1
1
5
10
2
9
13
15
14
3
10
11
11
9
▲9 Location and total number of properties within sampled census block

with improvement assessment values is dollars per square foot of heated space. Sale prices were computed with both land and improvement area as the common measurement base; however, only the land area comparisons are presented in this report.

Impacts of School Closure on Property Turnover and Value---Utilizing the data files as already described, the study staff examined trends over the 1950-1974 period in the Interlake-Allen, Mann-Minor-Leschi, and Decatur-Maple Leaf school groupings. The data files used in this examination of trends are available through the University of Washington's Bureau of School Service and Research. In this report, we summarize only the trends in property turnover, land assessed values, and sales values. An examination of land assessed values by distance from school is also included.

1. Property Turnover Rates. In Table 4.06, we note the pre- and post-closure annual sales rates (based on annual sales per hundred properties in file) for 1960-1974 in each of the seven schools. The property sales or turnover rates for earlier years (1950-1959) were not included due to the incompleteness of sales records in these earlier years. Focusing specifically on the Interlake-Allen case, there is a lesser drop in sales rate in Interlake following the school closure. While the difference is not large, it is suggestive of a possible post-closure impact. In this case, one could argue that Allen had a lesser property turnover rate (and hence greater stability) in the years following closure of Interlake School.

In the Mann-Minor-Leschi case, there was a noticeable drop in all three schools in the post-closure period, the drop being least in the Minor area. The drop in annual sales rate following threatened closure in Decatur was very slight and the overall sales pattern matches very closely the rates for the control school, Maple Leaf.

Much the same conclusion, namely, a modest relative increase in property turnover in Interlake following closure, can be drawn from the more immediate pre- and post-closure sales data in Table 4.07. Notice that Interlake experienced a 0.5 increase in annual sales per hundred properties. The comparison here is limited to annual sales rates during the 3.5 years before and after closure. While a substantial increase in property turnover is also noted for Decatur in the post-closure period, a time period of only one-half year is judged inadequate as any indication of school closure impact. The post-

Table 4.06

Sales Rates in Closure and Control Schools
1960-1974

School Area[a]	Number of Properties[b]	Annual Sales per Hundred Properties[c]		
		Pre-Closure	Post-Closure	Total
Interlake (1971)	124	8.5	8.4	8.5
Allen [11.5/3.5]	251	8.8	8.3	8.7
Mann (1968)	170	8.7	4.3	6.7
Minor	42	8.7	5.9	7.5
Leschi [8.5/6.5]	134	9.1	4.4	7.1
Decatur (1974)	235	8.8	7.7	8.7
Maple Leaf [14.5/0.5]	247	8.6	7.3	8.6

[a] The year of closure (or threatened closure) is indicated in parentheses following the closure school. The number of years preceding and following closure are shown in brackets---as a fraction whose numerator represents the number of years from 1960 to closure, and whose denominator represents the number of years from closure to 1974.

[b] This is the total number of residential properties included in the sample for each attendance area.

[c] This is simply 100 times the total number of sales in the indicated period divided by the product of the number of properties and the number of years in the time period under consideration. The pre- and post-closure periods are determined by the date of school closure, with the sales for the year of closure distributed equally between the pre- and post-closure periods.

Table 4.07

Immediate Pre- and Post-Closure Sales Rates[a]

School Area[b]	Annual Sales per Hundred Properties[c]	
	Immediate Pre-Closure	Immediate Post-Closure
Interlake (1971)	7.9	8.4
Allen	8.4	8.3
Mann (1968)	8.2	5.2
Minor	6.1	7.5
Leschi	7.9	5.1
Decatur (1974)	6.7	7.7
Maple Leaf	7.2	7.3

[a] Except for the case of Decatur-Maple Leaf, immediate pre- and post-closure period refers to the 3.5 years before and after the point of school closure. In the Decatur-Maple Leaf case, the post-closure period was only .5 years. Total sales for the year of closure were split evenly between the pre- and post-closure periods.

[b] The year of closure (or threatened closure) for each is indicated in parentheses following the closure school.

[c] Annual sales per thousand properties is computed here in accordance with procedures used in Table 4.06.

closure property turnover in the Mann area (using the immediate pre- and post-closure time periods) again parallels the pattern of Leschi. Hence, we find no indication of possible closure effects in this case.

2. Assessed Values of Land. The case for using assessed value of land (measured on a dollar per square foot basis) as a measure of property value change over time was detailed earlier in this section of the report. It is based largely on a theoretical argument that land assessments reflect optimum use of property and are therefore indicative of such neighborhood effects as school closure. Land values also present fewer problems relating to adjustments for differences in age or type of structure.

Before utilizing the land assessment data in a time series, it was necessary to adjust for certain changes in assessment practice occurring in 1970 and 1974. Up to 1970, property (both land and improvement portions) was generally assessed at 25 percent of market value. For 1970 through 1973, the rate was 50 percent and since that time the assessment rate has been 100 percent of market value. To adjust for these changes in assessment practice, all assessments for years prior to 1970 were multiplied by four and those from 1970 to 1973 were multiplied by two. This gave a continuous record of land assessments (or estimates) at approximately 100 percent of market value. This record is presented in Attachment 4C.

While every property in the data file has an annual land assessment value, it is evident in studying the data of Attachment 4C that reassessments are recorded in specific areas of the City only in selected years. Because there is no annual reassessment system for all properties in the school district, it makes sense only to sum across several pre- and post-closure years in comparing land assessments in closure and control schools; hence, only long-range impacts have any chance of detection using the assessment data.

This assessment data for the Interlake-Allen and Mann-Minor-Leschi cases is presented in Table 4.08. Comparing the land values in the three years before and after the school closure shows no apparent impact from the closure decision. If there is some type of impact, it is lost among the several other variables operating during this same time period. By limiting the analysis only to residential properties of the single-family type, there is some indication of a post-closure relative decline in land values in the Interlake area; however, this drop is of minimal size and cannot be used as an indicator of post-closure deterioration.

A somewhat similar analysis was conducted using assessed values of improvements rather than land. Here again no particular closure impacts were identified. The unit of measure for these improvement values was dollars per square foot of heated area and the summary by school area is presented in Attachment 4C.

Table 4.08

Average Land Assessments -- Pre- and Post-Closure Years

School Area [a]	Land Value per Square Foot [b]		Percent Change
	Immediate Pre-Closure	Immediate Post-Closure	
Interlake (1971)	.72	1.10	+53
Allen	.84	1.22	+45
Mann (1968)	.41	.62	+51
Minor	.36	.53	+47
Leschi	.47	.72	+53

[a] The year of closure is indicated in parentheses following the school name.

[b] These values are simply the average of land assessments for the three year periods before and after closure. Values for each of the years included here are presented in Attachment 4C.

3. Sales Values. Sales prices on property transactions were included as part of the basic data file. Using date of sale, the total sale price, and total square feet of site, it was possible to convert all sales data to a dollar per square foot measure and to compare sales figures in one attendance area to those in another on a yearly basis. Because of the limited number of sales in any given year, these data are perhaps less reliable than the assessment information; however, one can count on identifying yearly fluctuations. This of course makes it possible to examine in a more detailed manner the immediate pre- and post-closure impacts.

The mean sale price for residential properties in the Interlake-Allen and Mann-Minor-Leschi areas are plotted for recent years in Figures 4.01 and 4.02 respectively. A data table showing annual sales figures for the entire 1950-1974 period for all seven schools is found in Attachment 4C. Similar data for individual census blocks and for properties in the single- and multiple-family assessor zone categories are available through the Bureau of School Service and Research, University of Washington.

In Figure 4.01, we note that property values have increased in Interlake and Allen in both the pre- and post-closure periods. Interlake's sales values (in dollars per square foot of land) represent 95 percent of the comparable figure in Allen in both 1966 and 1974. Hence, it is difficult to establish any long-term impact relating to the school closure in Interlake. It is, however, true that Interlake's sales values dropped both absolutely and in relation to Allen in the year immediately following closure. This suggests a possible short-term impact of the school closure decision.

We observe in Figure 4.02 a considerable fluctuation in sales values for the Mann-Minor-Leschi group. This is partly due to the lesser number of sales in any single year, but it is also indicative of a more variable market in this area of the City. This fluctuating pattern makes it extremely difficult to establish any case for closure impact. The increase in Mann between the year before closure and the year after closure (from $2.45 in 1967 to $3.48 in 1969) is the largest for any of the three schools, thus providing no evidence of short-term negative impact. The fluctuations in sales value for all three areas in the early 1970's make any definite interpretation of post-closure trends impossible.

4. Land Assessments and Distance from School. Previous comparisons in the property domain suggest there has been only limited impact associated with school closure and that occurred in relation to a somewhat higher property turnover rate in the Interlake area following school closure. The study staff, on finding no particular impacts relating to land assessed values in the several attendance areas, decided to examine patterns of land value change according to distance from school. All other things being equal, one might expect land values in the area adjacent or closest to the school site to be higher than those at some considerable distance from the school. Of more importance in this assessment of school closure impacts (and particularly the testing of Hypothesis #1 relating to post-closure deterioration in property condition and value) is the examination of particular trends in the patterns of land cost at varying distances from the school facility. The critical question here is to discover whether, in the case of a school closure, land costs drop more rapidly (or increase at a lesser rate) in blocks closer to the site of a closed school.

In an effort to examine this relationship between distance and property values, the BSSR staff assigned all sample properties in the Interlake-Allen and Mann-Minor-Leschi school areas according to three distance categories and then computed the average assessed values of land in the years immediately before and after school closure. The three distance categories were as follows:

Category	Distance from School
Adjacent	0 to 780 feet
Intermediate	781 to 1,570 feet
Distant	1,570+ feet

FIGURE 4.01

Mean Sale Values for Interlake-Allen
1966-1974

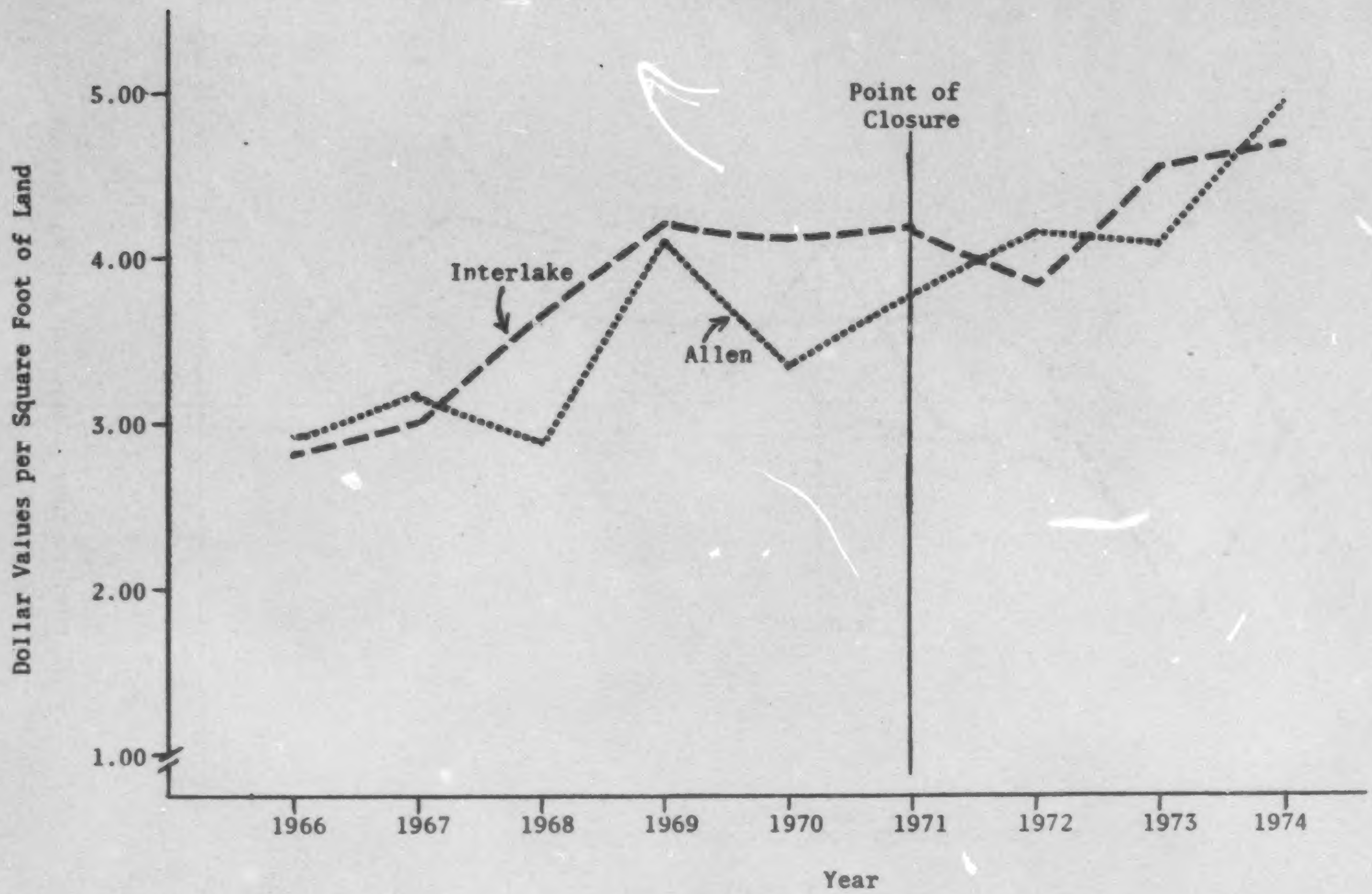
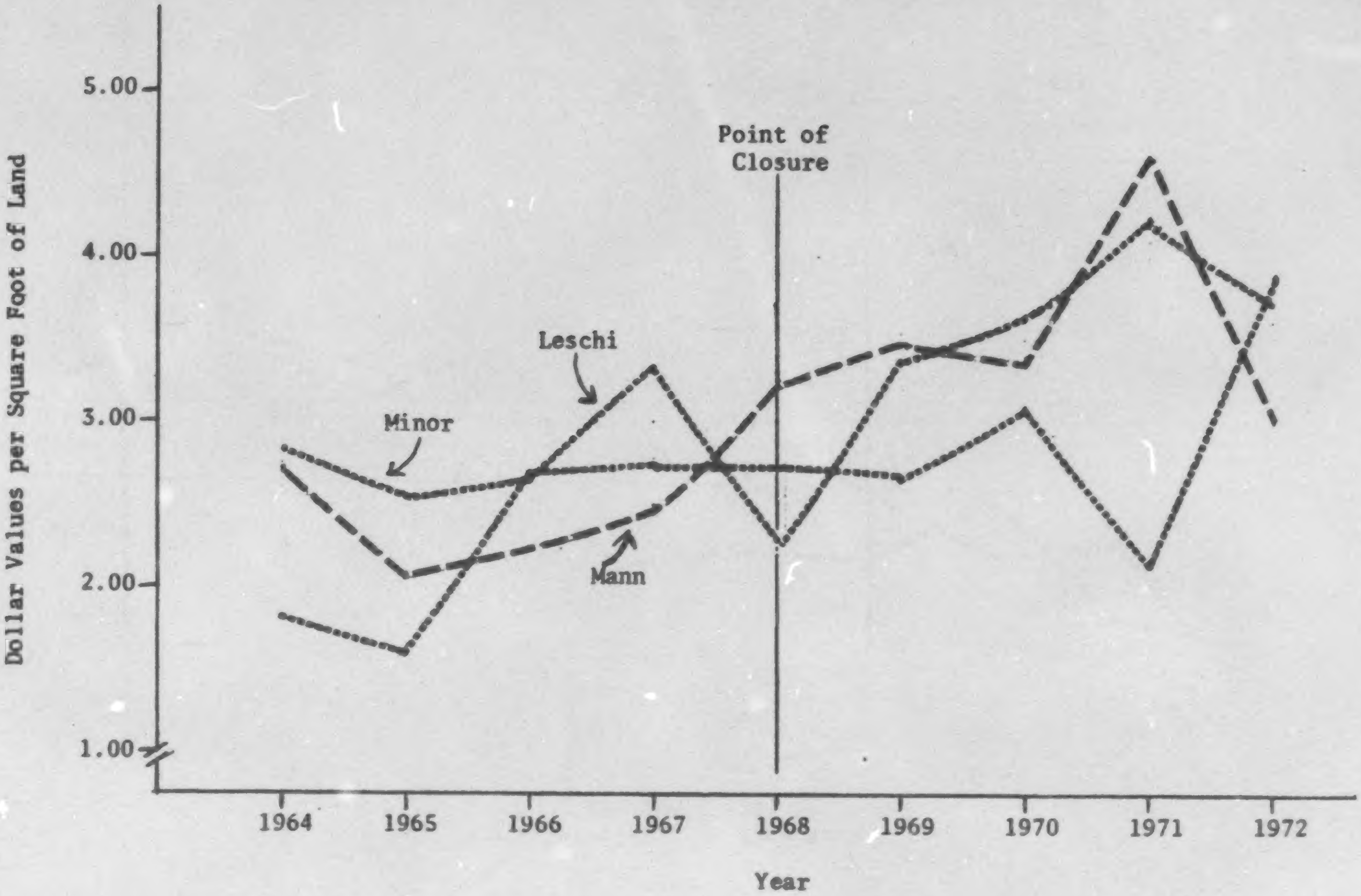


FIGURE 4.02

Mean Sale Values for Mann-Minor-Leschi
1964-1972



The results of this investigation for the two school groups are presented in Tables 4.09 and 4.10. In the case of Interlake-Allen, we note in Table 4.09 no particular tendency for the area adjacent to the school to increase at a lesser rate. It is interesting to observe that the area most distant from the school is assessed at a higher rate in both the pre- and post-closure periods; however, this is likely due to the lesser commercial activity of the neighborhoods and the larger number of view properties in these more distant areas. The variance in land values among the three distance categories is much less in the Allen area and the change between pre- and post-closure periods in the three areas is again quite similar. There is certainly no indication of post-closure deterioration from this data relating land values to distance from school location.

Table 4.09

Average Land Values by Distance from School -- Interlake-Allen
(expressed as dollars per square foot of land)

School/District Categories[a]		Average Land Values[b]		Percent Change
		Pre-Closure 1968-1970	Post-Closure 1972-1974	
Interlake	Adjacent (42)	.65	.99	+52
	Intermediate (65)	.72	1.12	+56
	Distant (24)	.88	1.33	+51
Allen	Adjacent (75)	.83	1.18	+42
	Intermediate (98)	.85	1.21	+42
	Distant (72)	.83	1.24	+49

[a] The three distance categories represent distance from school site adjacent (0 to 780 ft.), intermediate (781 to 1570 ft.), and distant (1570+ ft.). The number of properties in each category is indicated in parentheses.

[b] Land values are adjusted to represent approximately 100 percent of market value in both the pre- and post-closure periods.

Table 4.10

Average Land Values by Distance from School -- Mann-Minor-Leschi (expressed as dollars per square foot of land)

School/Distance Categories[a]		Average Land Values[b]		Percent Change
		Pre-Closure 1965-1967	Post-Closure 1969-1971	
Mann	Adjacent (18)	.40	1.02	+155
	Intermediate (102)	.41	1.10	+168
	Distant (50)	.40	.95	+137
Minor	Adjacent (9)	.31	.76	+145
	Intermediate (25)	.37	.94	+154
	Distant (8)	.37	.86	+132
Leschi	Adjacent (60)	.45	1.15	+156
	Intermediate (42)	.46	1.20	+161
	Distant (32)	.49	1.28	+161

[a] The three distance categories represent distance from school site and are adjacent (0 to 780 ft.), intermediate (781 to 1570 ft.), and distant (1570+ ft.). The number of properties in each category is indicated in parentheses.

[b] Land values are adjusted to represent approximately 100 percent of market value in both the pre- and post-closure periods.

Relative post-closure deterioration in areas adjacent to the school site is also difficult to prove in the case of Mann. We note in Table 4.10 that property assessments in the area adjacent to Mann increased at a slightly lower rate than the intermediate grouping; however, the increase in assessments in the area most distant from the school site was the least for the three distance categories being examined. A similar pattern existed in the case of Minor and there was virtually no difference in the percent of increase in the three distance groupings in Leschi. The most distant category in the Leschi attendance area is assessed at a slightly higher rate, presumably because of the better views associated with lots in this category.

Summary of Property Impacts---In the three cases of property turnover rates, land assessed values, and sales values, only limited closure impact has been discovered. A modest absolute and relative increase in property turnover rate was observed following closure at Interlake (Table 4.07). There is also a slight and immediate post-closure deterioration in Interlake indicated by a drop in sales values per square foot of land (Figure 4.01); however, this is a short-term impact and does not carry beyond the first year after closure. No particular trends in property turnover and value were identified either before or after closure (or threatened closure) in the Mann and Decatur areas, the other two closure schools for which a detailed property file was created. Hence, we conclude that no pre-closure and only limited post-closure impacts have been identified in the detailed study of the property files and this identified impact is primarily in the area of property turnover rates.

The failure to identify definite and sizable closure impacts in relation to property values is not necessarily an indication that such impacts were not present. It may simply mean that the impacts were of small import relative to the other factors operating in the residential sales market. It is also quite possible that the greatest impact of school closure on property is the composition of the potential buyer group (a shift from persons with children to those without), an impact which may not show up in the market value of housing. There was, of course, some indication of this possibility of shifting buyer group in the population and enrollment analyses of the previous chapters. We conclude this examination of property characteristics and values by simply observing that those property impacts identified in this particular study have been of minimal size and of a relatively short-term nature.

Chapter 5

CRIME AND FIRE RATES IN SCHOOL NEIGHBORHOODS

Some persons have hypothesized a direct relationship between school closure and the incidence of crimes and fires. To some, this relationship is essentially Hypothesis #2 (as stated earlier in this report); namely, that increased crime and fire rates in a given area are part of a process of generally deteriorating neighborhood conditions leading to out-migration and eventual school closure. An alternative hypothesis (Hypothesis #1 as stated earlier) suggests that crime and fire rates in a neighborhood are likely to increase due to school closure. In this particular chapter, the BSSR staff examines the general relationship between school closure and the incidence of selected types of crimes and fires. This examination is exploratory in nature and focuses upon specific schools recently closed (or threatened with closure) in the Seattle School District.

Incidence of Crime in Seattle School Neighborhoods

In considering the relationship of crime to school closure, two indicators of crime are used. These indicators are part one offenses and crimes against property. Part one offenses as listed in the Seattle Police Department Annual Reports include eight major felonies: murder and negligent manslaughter, rape, robbery, aggravated assault, burglary, larceny, auto theft, and non-aggravated assault. Crimes against property include just three of these part one offenses: burglary, larceny, and auto theft.

Crimes against property are of particular interest in studying the relationship between crime and school closure, as these offenses are more likely to occur in the neighborhood than are the so-called crimes against persons which comprise the remainder of part one offenses.

It should be stressed that occurrence of offenses rather than the number of arrests or convictions is the variable of interest in this study. This focus on the number of reported offenses gives a better picture of criminal activity in a given neighborhood than do arrest or conviction reports. This is because many criminals, particularly those who commit property offenses, are not even identified, let alone arrested or convicted. Using the number of arrests or convictions would therefore grossly underestimate the extent of criminal activity and would also be more subject to variations in judicial practice across the school district.

The crime data for 1960-1974 came from Seattle Police Department Annual Reports. These data are presented by census tract for each of the indicated years. Computer printouts from the Seattle Law and Justice Planning Office were consulted for the 1975 data but only in the case of Decatur-Maple Leaf. Because the threatened closure at Decatur did not occur until 1974, the 1975 data was required as a basis for examining the post-closure patterns of crime in that particular neighborhood. The comparability of crime information over this 15-year period is generally good. There have been changes in the definition of assault and larceny; however, these changes were relatively minor and should not create interpretive problems in this study which concentrates on property crimes.

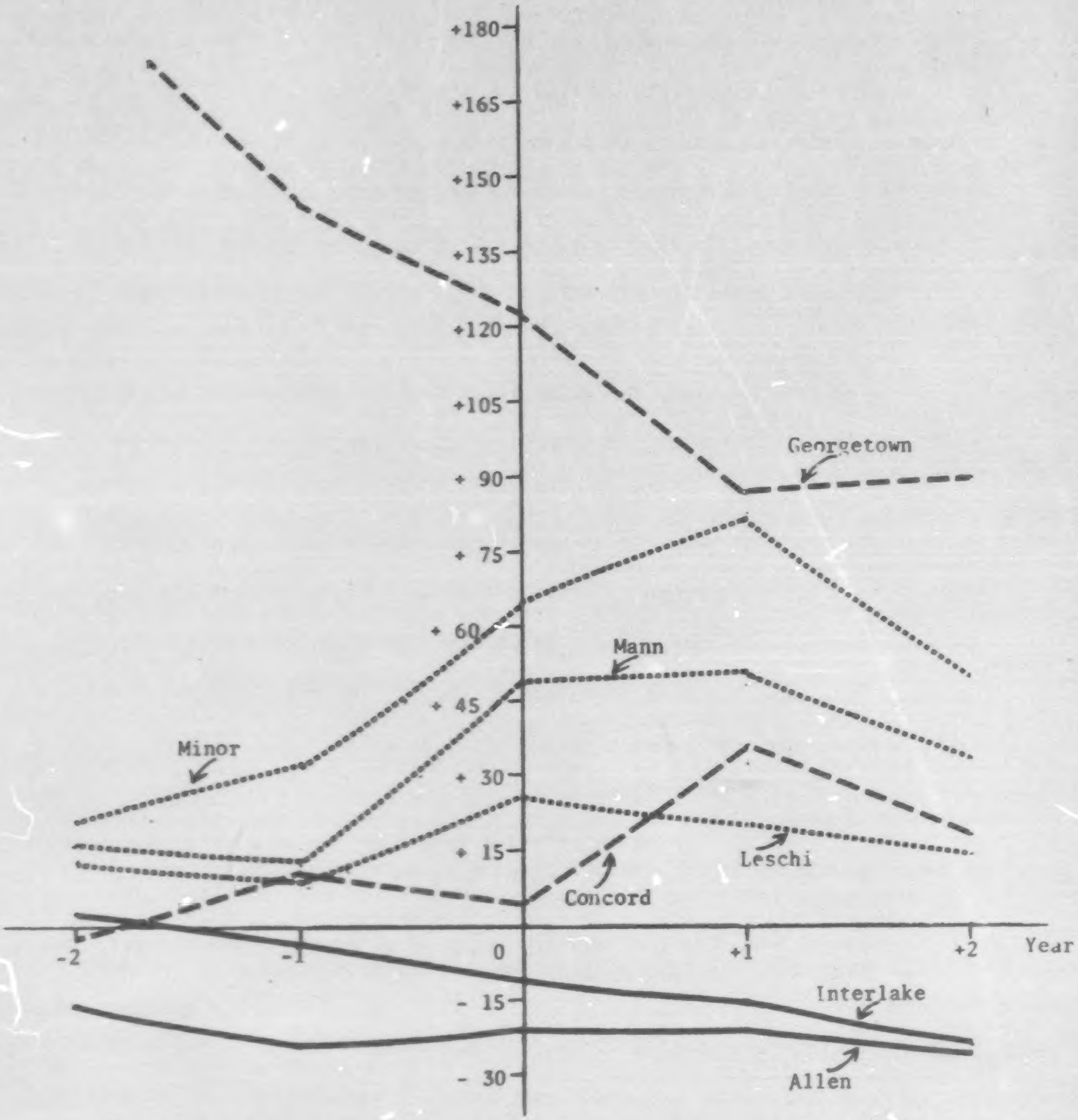
Before examining crime rates by school attendance area, it was first necessary to allocate the crimes by census tract to the eleven school areas involved in this particular study. The allocations indicated in Attachment

5A were used for this purpose. Two census tracts in the Concord area which are outside the Seattle City limits were not included in the analysis. This is due to the fact that part one offenses were not available for these two census tracts. Because these two tracts represent a very small part of the total Concord attendance area, the omission has a minimal effect on the results. A more-detailed description of this allocation procedure is provided in Attachment 5A, and data tables showing the precise allocations are available at the Bureau of School Service and Research, University of Washington.

The overall pattern of crime in the years just prior to and following the school closures under study is perhaps best described in Figure 5.01. This figure shows the differences between City and school neighborhood property crimes in the two years before and after closure for three groups of closure-control schools--Interlake-Allen, Georgetown-Concord, and Mann-Minor-Leschi. (The specific procedures used to allocate crime to the several attendance areas are explained in Attachment 5A.) Notice that all schools except Interlake and Allen have higher property crime rates (measured here as crimes per thousand population) than the City both before and after the event of closure. The crime rate relative to the City as a whole drops the year following closure in two of the three schools. Only in the case of Mann does the crime rate (relative to the City) in the year following closure increase. Even in this case, it is interesting to note that the increase is even greater in Minor, one of the control schools for Mann. The actual numerical differences in City and school neighborhood crime rates are presented in the first table of Attachment 5B. Also included in this attachment are data tables showing part one and property crime rates in each of the school neighborhoods examined in this study.

FIGURE 5.01

Difference Between School Neighborhood and City Crime Rates*



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*This figure charts the difference in property crimes (measured in crimes per thousand population) between the selected school neighborhoods and the city as a whole. The fact that most differences are above zero indicates generally higher crime incidence in the closure and control neighborhoods covered in this study.

In Figure 5.02, we see a plot of part one and property crime rates for 1960-74 in the City of Seattle. Notice that part one and property crime rates follow a similar pattern throughout the 15-year period. The sharp increase in crime during the 1967-69 period was a nationwide phenomenon and serves as an appropriate caution in interpreting changes in individual school neighborhoods during that same time period. It is best to examine crime rate changes in each of the closure neighborhoods along with changes in the control area(s) and the City-wide average, thereby assuring consideration of broader societal movements in any interpretations which might be made.

With this in mind, the crime rates for closure and control neighborhoods have been plotted on the same figures. These plots (contained in Figures 5.03 - 5.08) include property crimes only; however, the basic data on both part one and property crimes is presented in Attachment 5B. Because the patterns for both property crime and total part one offenses are so similar in all areas under study, it is sufficient to examine just the property offenses as a basis for this analysis. The following are conclusions drawn from the several plots of property crime rates:

Interlake-Allen (Figure 5.03, p. 161)

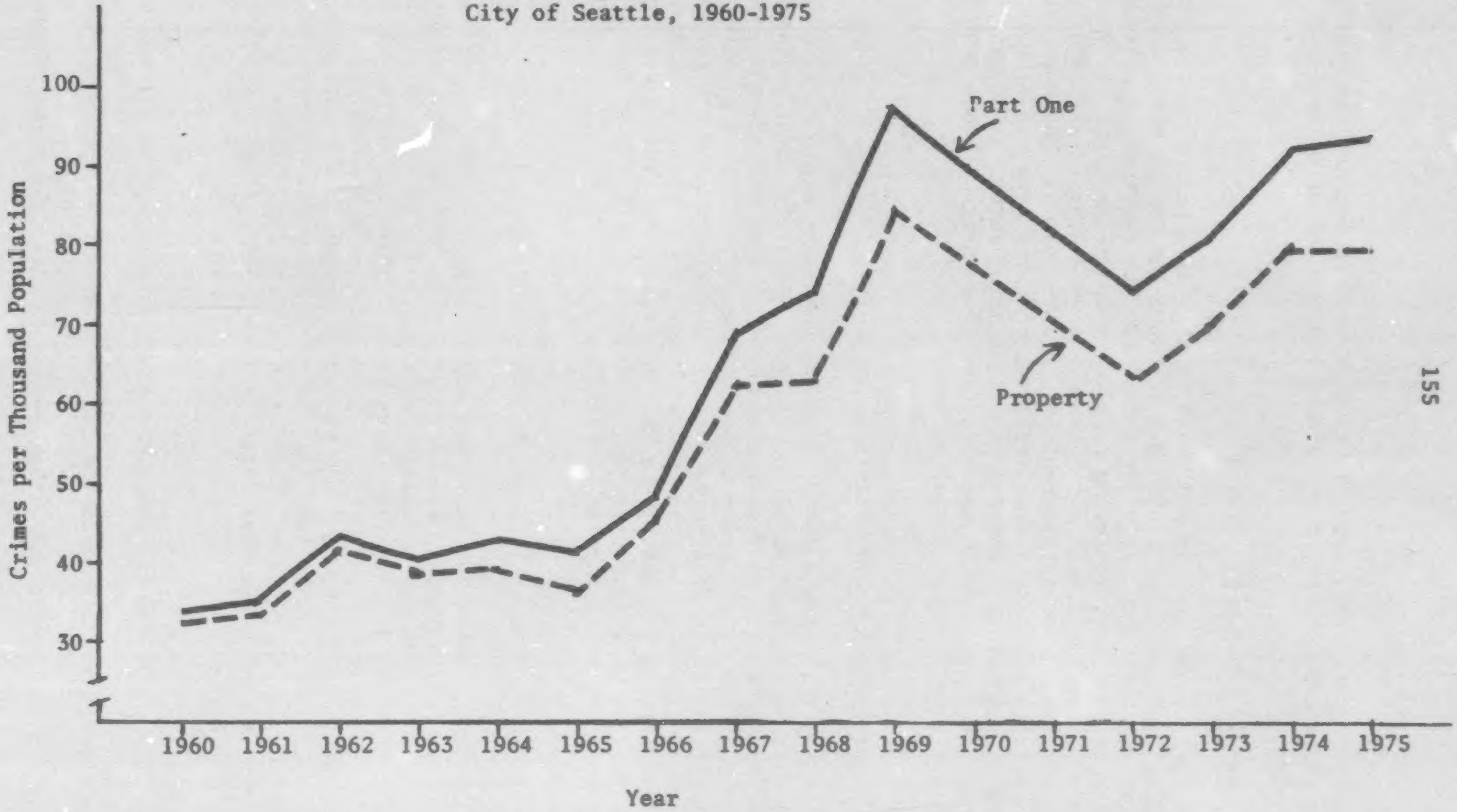
> Interlake was closed in 1971 and experienced a drop in crime during each of the first two years following closure. This drop occurred both in absolute terms and in relation to both Allen and the City-wide average. The property crime rate in the Interlake area increased again in 1974, thus making the relative rates of property crime in Interlake and Allen much the same as they were at the time of closure in 1971.

Decatur-Maple Leaf (Figure 5.04, p. 162)

> Over the past ten years, crime rates in the Decatur area have been slightly lower than those in the Maple Leaf community and much lower than those in the City as a whole. Following threatened closure in June 1974, there occurred a slight drop in crime in the Decatur area. Crime rates in the City were practically the same in 1975 as they were

FIGURE 5.02

Part One and Property Crime Rates for City of Seattle, 1960-1975



in 1974. From these data, it is difficult to suggest the existence of any relationship between threatened closure and crime rates.

Mann-Minor-Leschi (Figure 5.05, p. 163)

Mann closed in 1968 and crime in this area peaked in the year following closure as it also did in Minor and Leschi and City-wide. Crime rates in Mann and Minor follow similar fluctuating patterns of crime in the years following closure, whereas the trend in Leschi is one of steady decline. All three areas were greatly affected by the social unrest which characterized the late 1960's. The steady decline of crime in the Leschi area indicates that the area may be returning to a "benign state," whereas the fluctuating rates in the Mann and Minor areas lead one to conclude that these neighborhoods continue to exhibit some level of social unrest.

Georgetown-Concord (Figure 5.06, p. 164)

Georgetown closed in 1971 and the community experienced a decline in crime in the year following closure. Actually, this dramatic decline started in 1969 when crime rates peaked both in the Georgetown area and City-wide. Crime in the Concord area follows an altogether different pattern with rates peaking in 1972 and dropping gradually after that time. The drop in crime rate in the years immediately before closure and the modest increase following closure are characteristic of City-wide patterns; hence, any direct tie of these trends to the event of closure is problematic.

Summit and Maple (Figures 5.07 and 5.08, pp. 165-166)

Neither Summit nor Maple has any control area and are therefore compared only with City-wide averages. The pattern of crime in Summit is quite erratic and is quite high throughout the 1960-69 period. The sharp increase in 1967 (two years after closure) is difficult to interpret, but there is certainly no indication of a relationship to the decision of closure. The pattern of crime in the Maple area shows much less variability than that in the Summit area and parallels the City-wide crime picture. There is no particular shift relative to City-wide averages either before or immediately after the 1971 closure of Old Maple.

Based upon the closure cases examined here, it is extremely difficult to find support for either of the two hypotheses. No consistent pattern of increased crime is observed either before or after the event of closure. The one case where there seemed to be some possible relationship between closure and crime rate was Georgetown. Even here, however, there was a consistent drop in crime rate relative to Concord both before and following the closure decision. It is almost as if a decline in the supply of residences reduced the opportunity for crime beginning in 1969. Since the part one offense pattern shows exactly the same pattern of decline beginning in 1969, it is more likely just an accentuated City and national pattern operating in the Georgetown area.

Residential Fires in School Neighborhoods

In this section of the report, we examine the relationship between residential fires and the closure of selected Seattle elementary schools. Residential fires as used here include all known fires in apartments, dormitories, single-family dwellings, two-family dwellings, hotels, motels, boarding houses, trailers, and other structures such as garages. These data on residential fires by census tract were collected from the Seattle Fire Department for the years 1966-74. As with the crime data, occurrence figures are available for all census tracts except the two tracts in the Concord area outside the City limits. These census tract figures on residential fires were allocated to the several school districts in a manner described in Attachment 5A and fire rates (number of residential fires per thousand occupied households) were then computed for each of the attendance areas. These fire rates for the City and the eleven school attendance areas are presented in Attachment 5C. The residential fire rates are plotted for the eleven schools in Figures 5.09 - 5.14. In examining Figure 5.09 (p. 168) and the data table of Attachment 5C, we observe that the City-wide fire rate fluctuates very little throughout the 1966-74 period, from a high of 6.92 fires per thousand occupied households in 1968 to a low of 5.93 fires per thousand occupied households in 1970. This same limited fluctuation is observed in both the Interlake-Allen and Decatur-Maple Leaf situations. (See Figures 5.09 and 5.10, pp. 168-169.) In neither case is there a consistent pattern of change before the school closure. The Interlake area did experience a slight increase the year following the school closure; however, the rate declined sharply thereafter, ending up with a lesser fire rate than Allen in 1974.

The fire rates in Mann and Leschi fluctuate together throughout the 1966-73 period. (See Figure 5.11, p. 170.) The fire rates in the Minor area fluctuate less than in Mann or Leschi but seem to hold the same overall pattern, with the highest rates observed in all three schools in 1969. This parallels the higher crime rates of that same year and can be assumed to be related to the general unrest in the Central Area during the late 1960's. While the fire rates in Mann are higher than for either Minor, Leschi, or the City average throughout the period (running at 2-3 times the City average), there is certainly no indication based on rates relative to Minor or Leschi that the school closure decision was either affected by or had an effect on the incidence of fires.

While the Georgetown fire rates fluctuated widely throughout the time period, the fire rates in Georgetown and Concord were almost identical in 1966 and 1974. (See Figure 5.12, p. 171.) The fact that Georgetown had a fire rate of 9.30 fires per thousand occupied households in 1974 as contrasted with 12.21 fires per thousand occupied households in 1971 (the year of closure) indicates a general decline in fire incidence since closure. It could also be an indication of reduced population movement through a generally industrial area.

School Closure and the Incidence of Crimes/Fires

Based upon the data presented in this chapter, there is clearly no relationship between school closure and the incidence of crimes or fires. In none of the closure-control cases studied here was there any systematic support for either Hypothesis #1 (closure leads to rapid increase in crimes/fires) or Hypothesis #2 (closure results from a prior increase in crime/fire rates). With respect to fires, the limited fluctuation made it difficult to find any relationship whatsoever to school closure. In the case of crime, there was considerable fluctuation, particularly in the Georgetown and Mann cases, but no discernible relationship to the events of school closure.

CRIME RATE PLOTS FOR SCHOOL NEIGHBORHOODS

Interlake-Allen

Decatur-Maple Leaf

Mann-Minor-Leschi

Georgetown-Concord

Summit

Maple

FIGURE 5.03

Property Crime Rates in Interlake-Allen
1966-1975

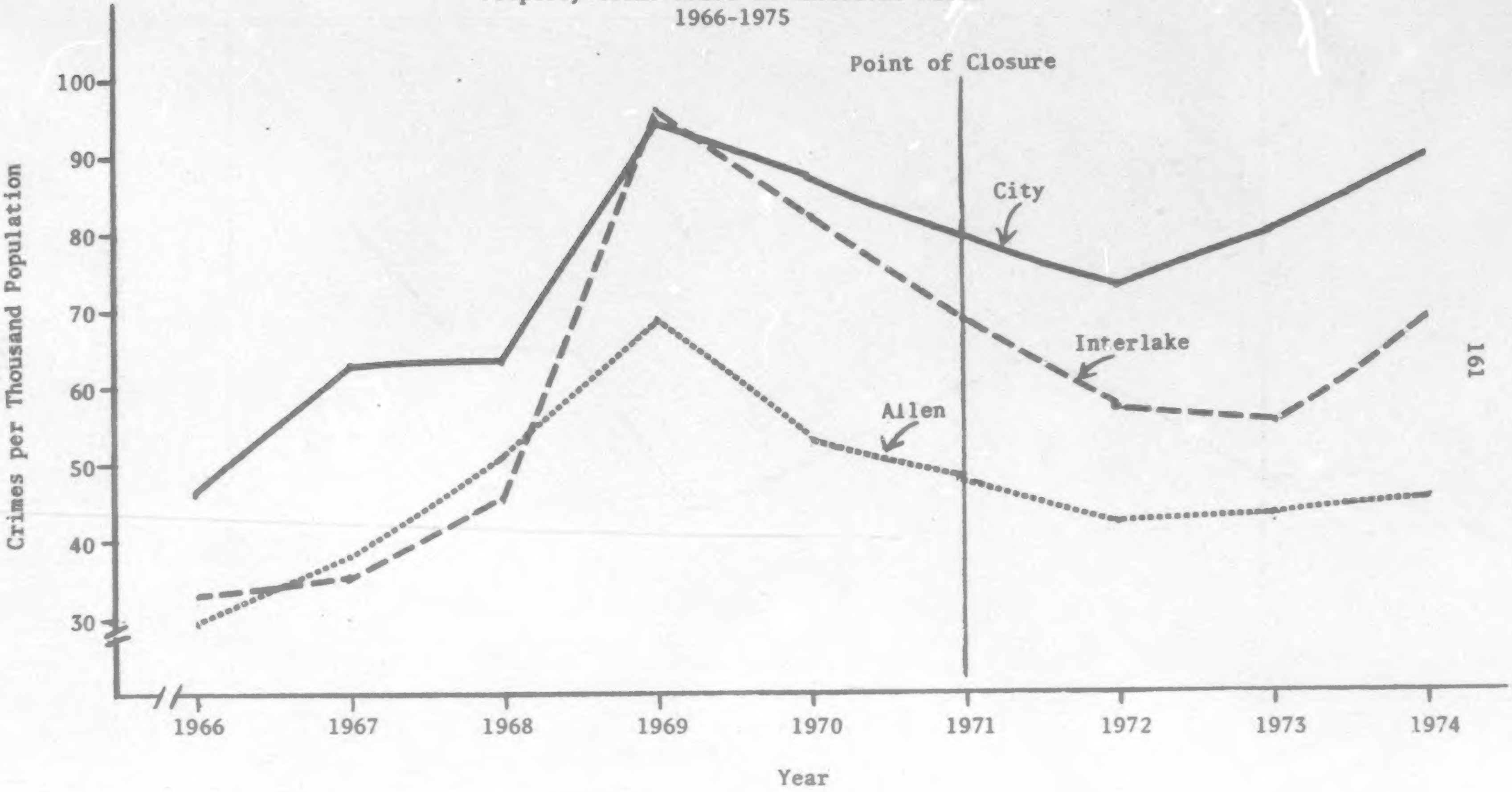


FIGURE 5.04

Property Crime Rates in Decatur-Maple Leaf
1966-1975

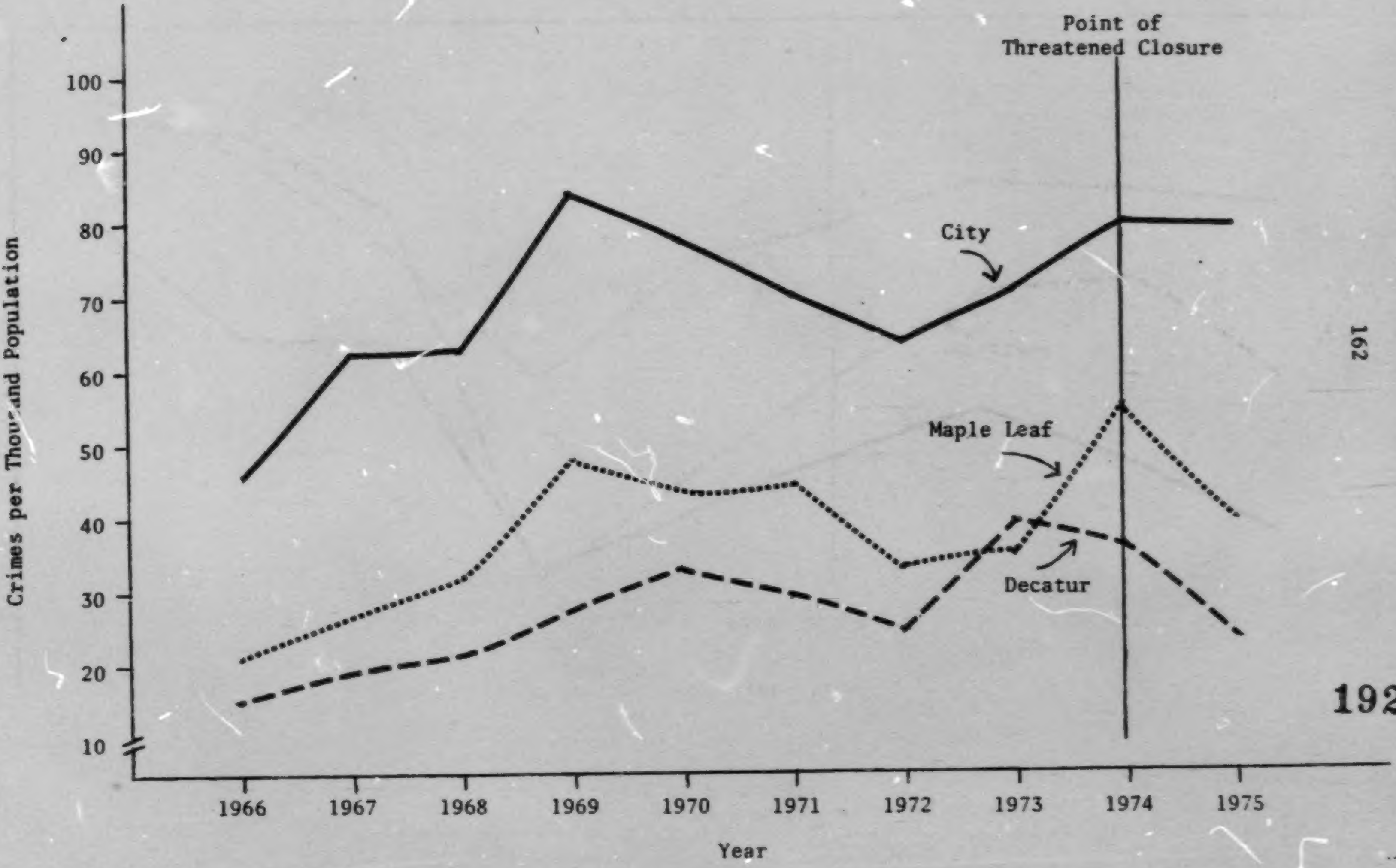
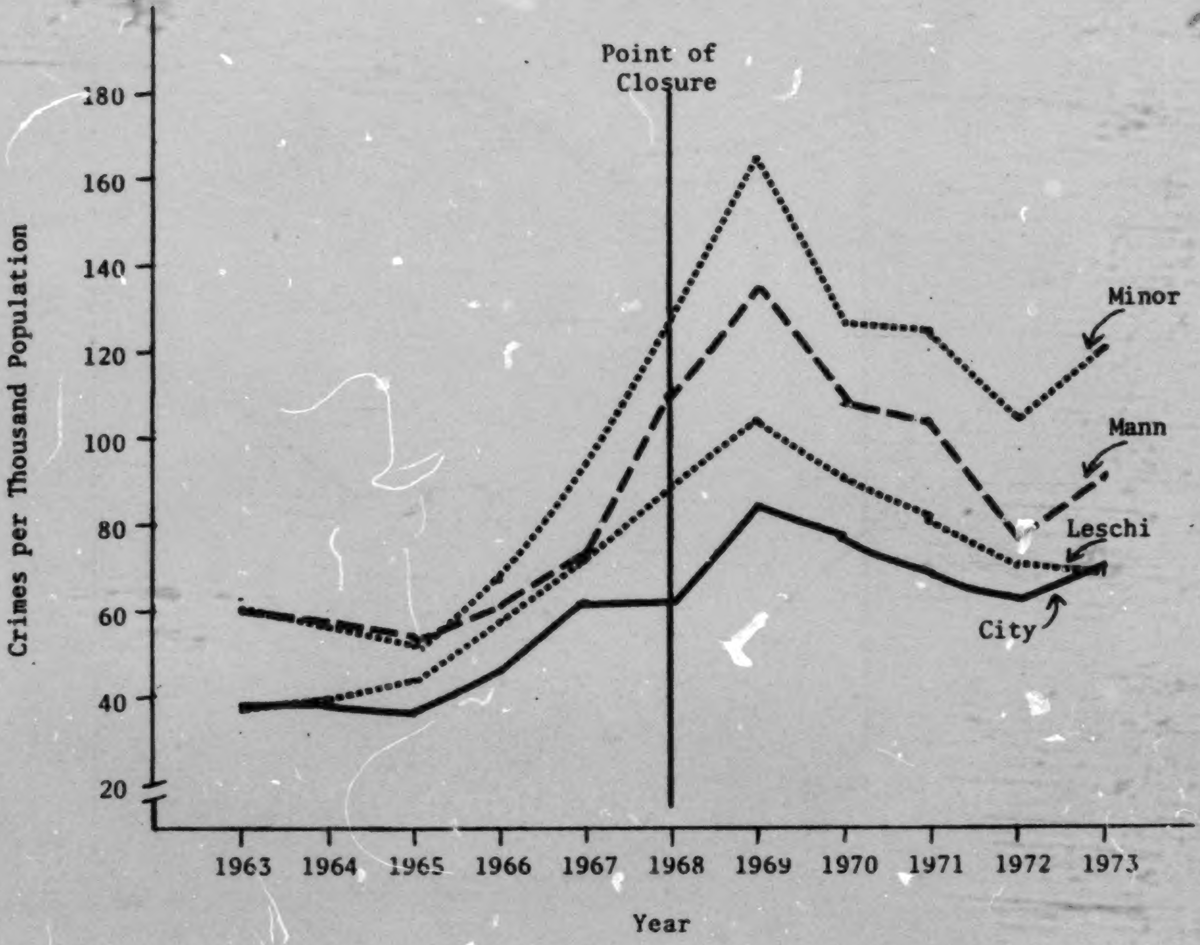


FIGURE 5.05

Property Crime Rates in Mann-Minor-Leschi
1963-1974



193

194

FIGURE 5.06

Property Crime Rates in Georgetown-Concord
1966-1974

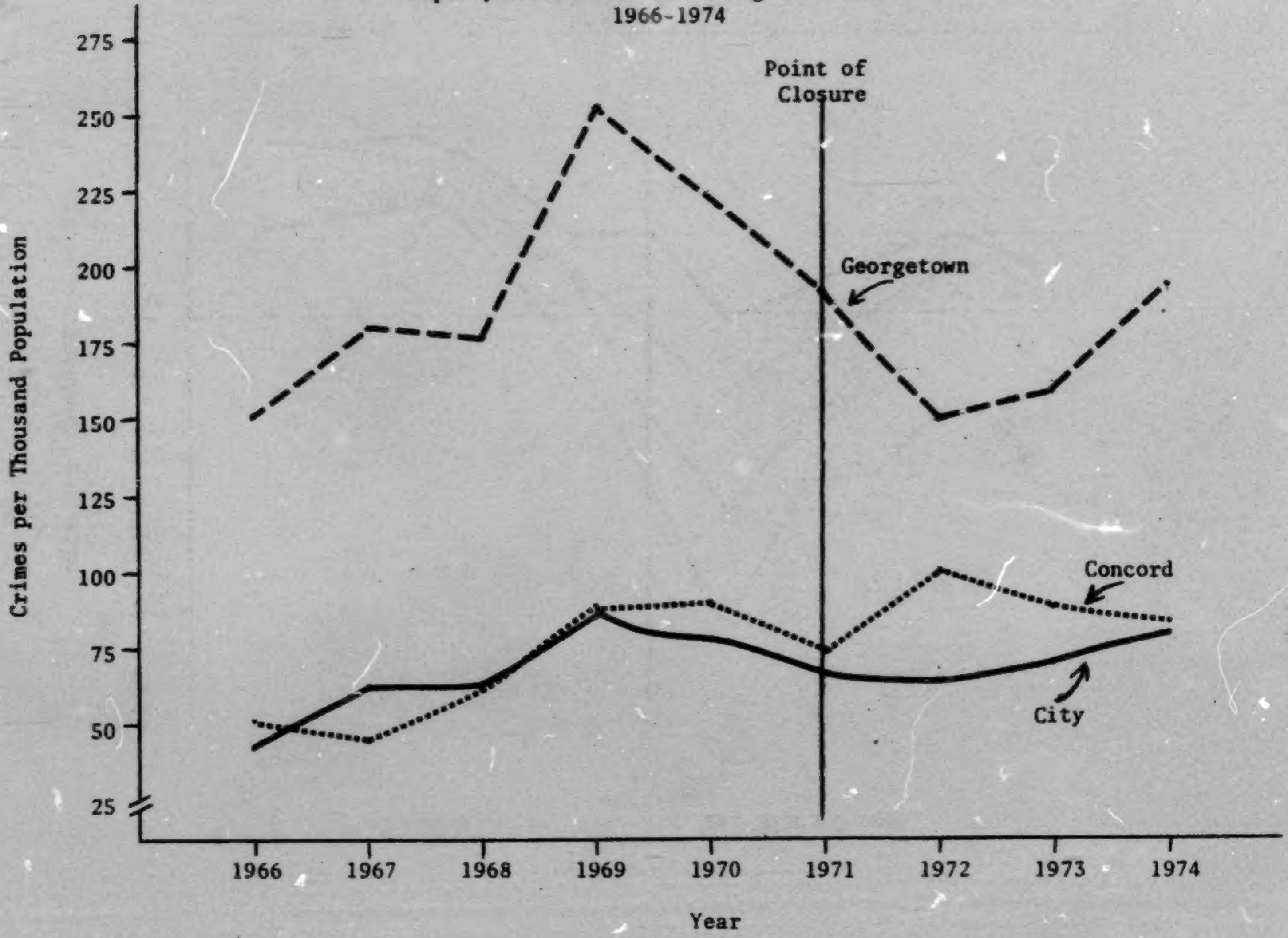


FIGURE 5.07

Property Crime Rates in Summit
1960-1969

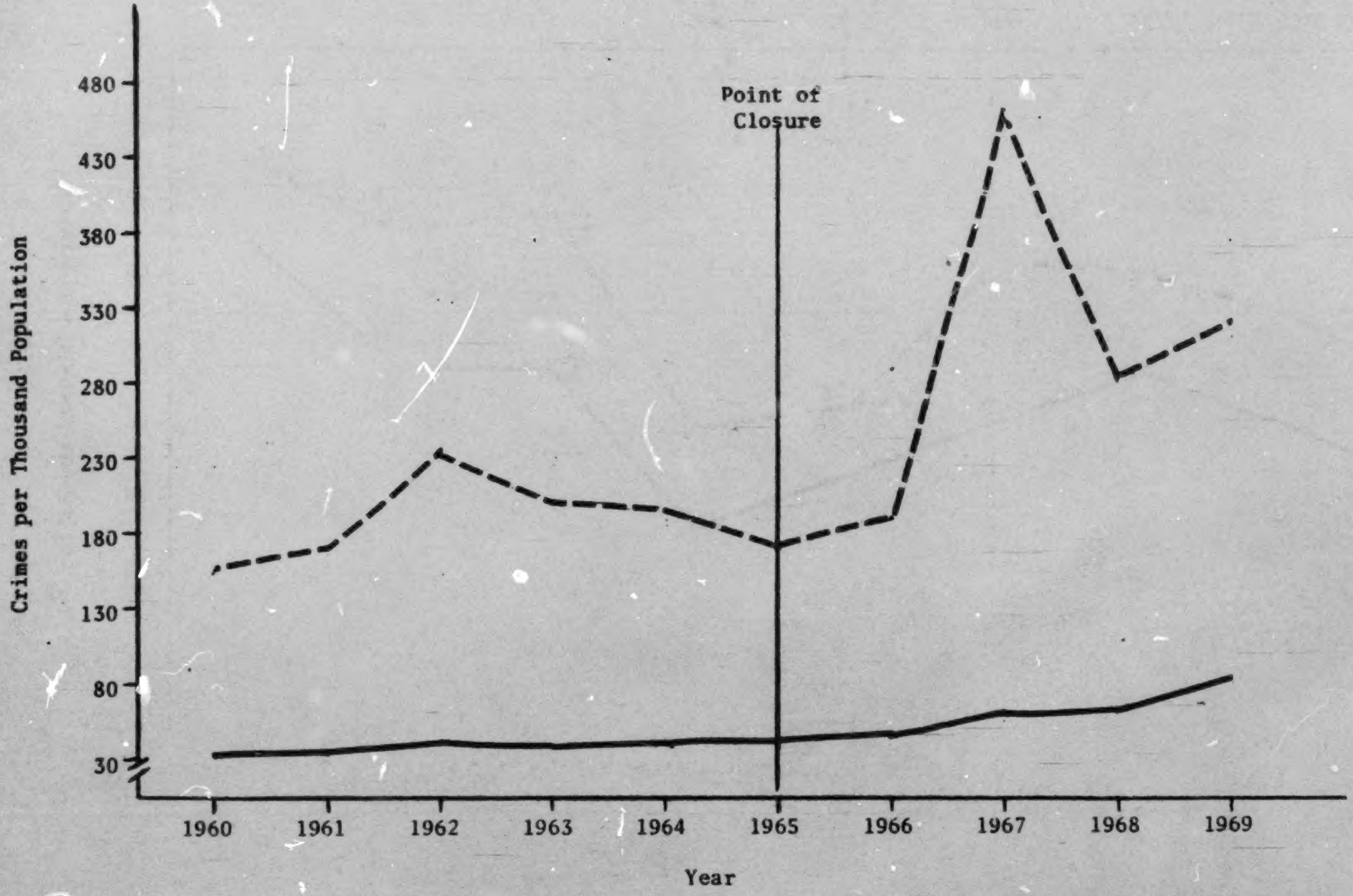
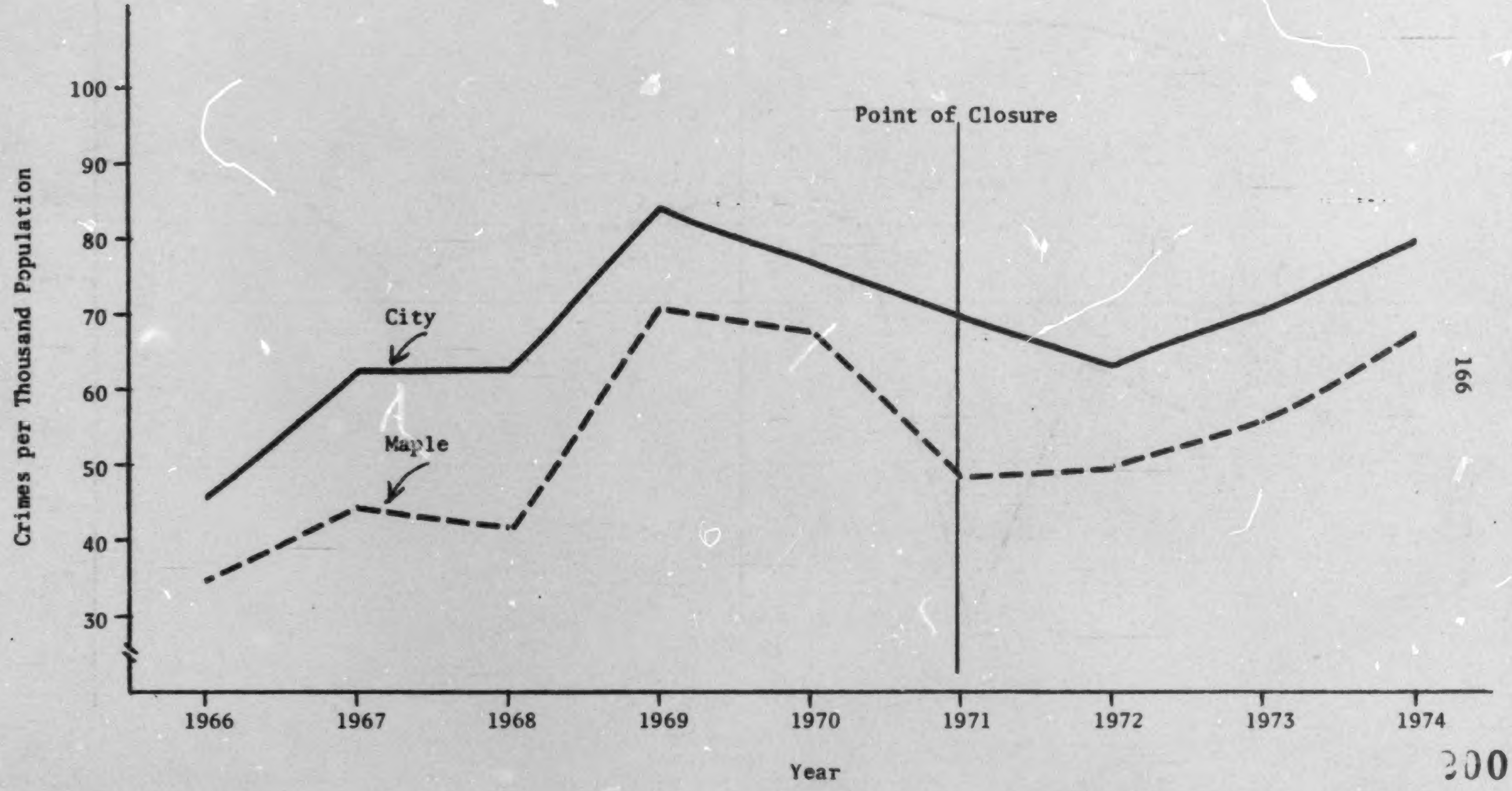


FIGURE 5.08

Property Crime Rates in Maple
1966-1974



FIRE RATE PLOTS FOR SCHOOL NEIGHBORHOODS

- Interlake-Allen
- Decatur-Maple Leaf
- Mann-Minor-Leschi
- Georgetown-Concord
- Summit
- Maple

FIGURE 5.09

Fire Rates in Interlake-Allen
1966-1974

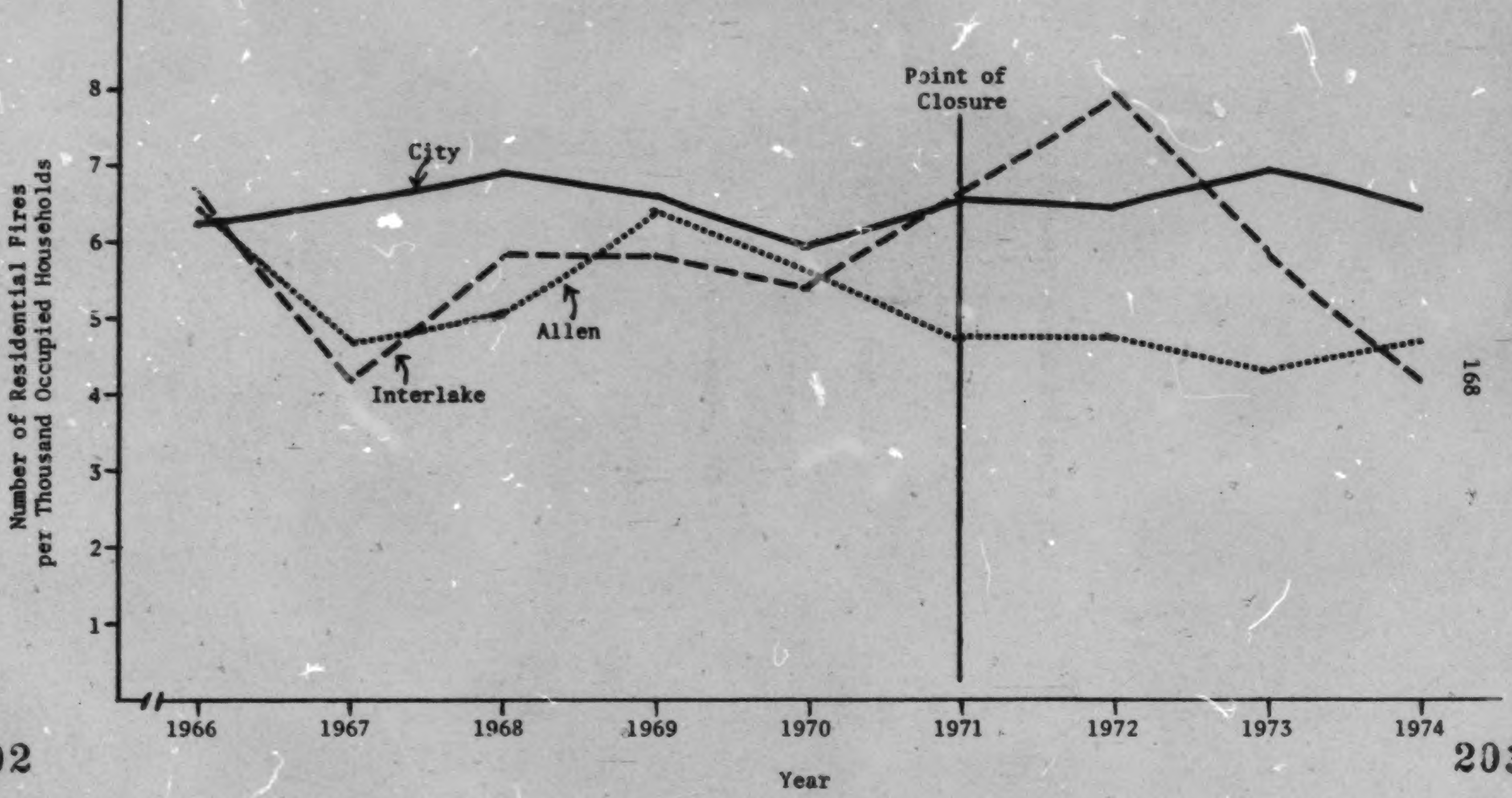


FIGURE 5.10

Fire Rates in Decatur-Maple Leaf
1966-1974

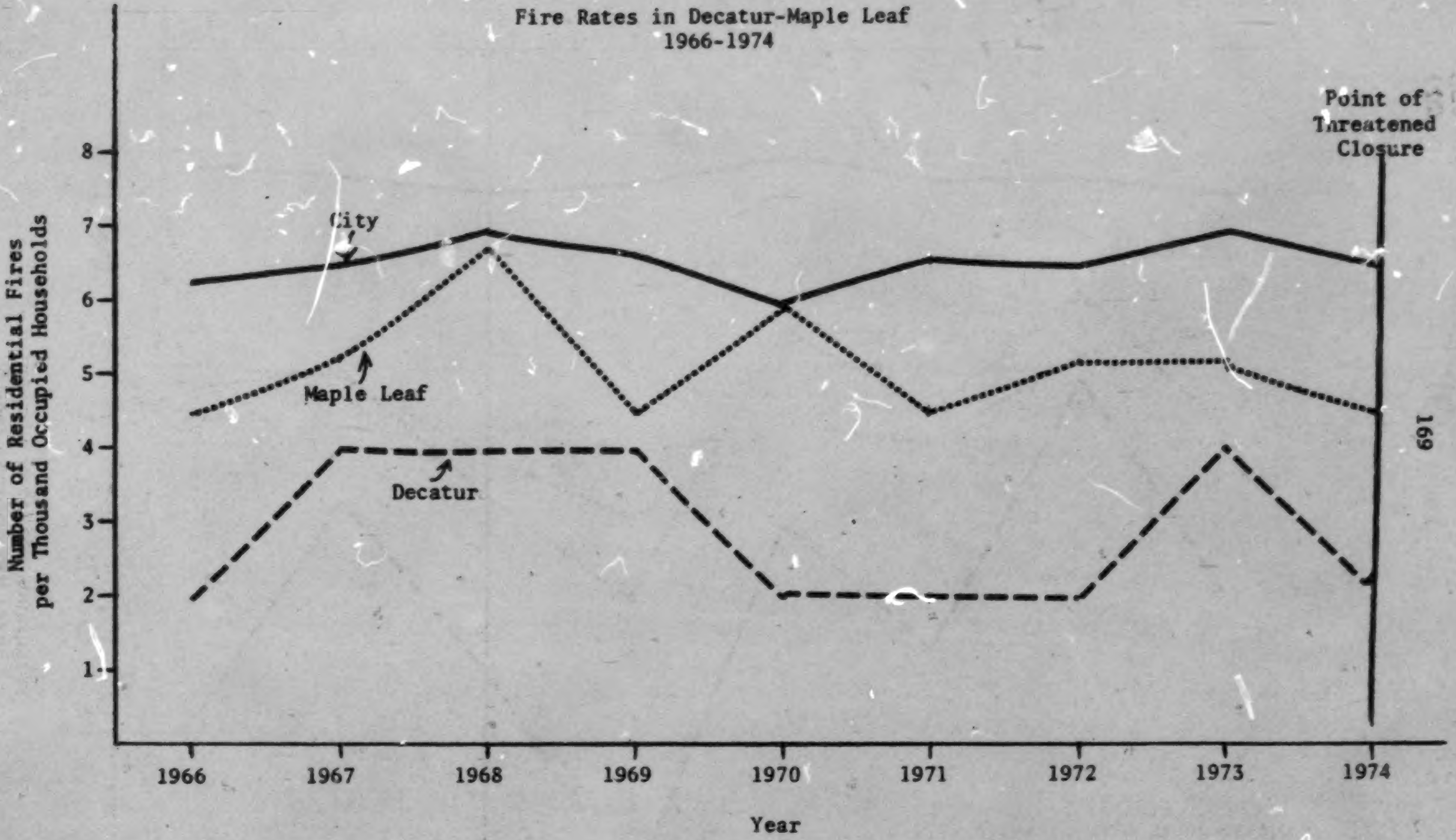


FIGURE 5.11

Fire Rates in Mann-Minor-Leschi
1966-1973

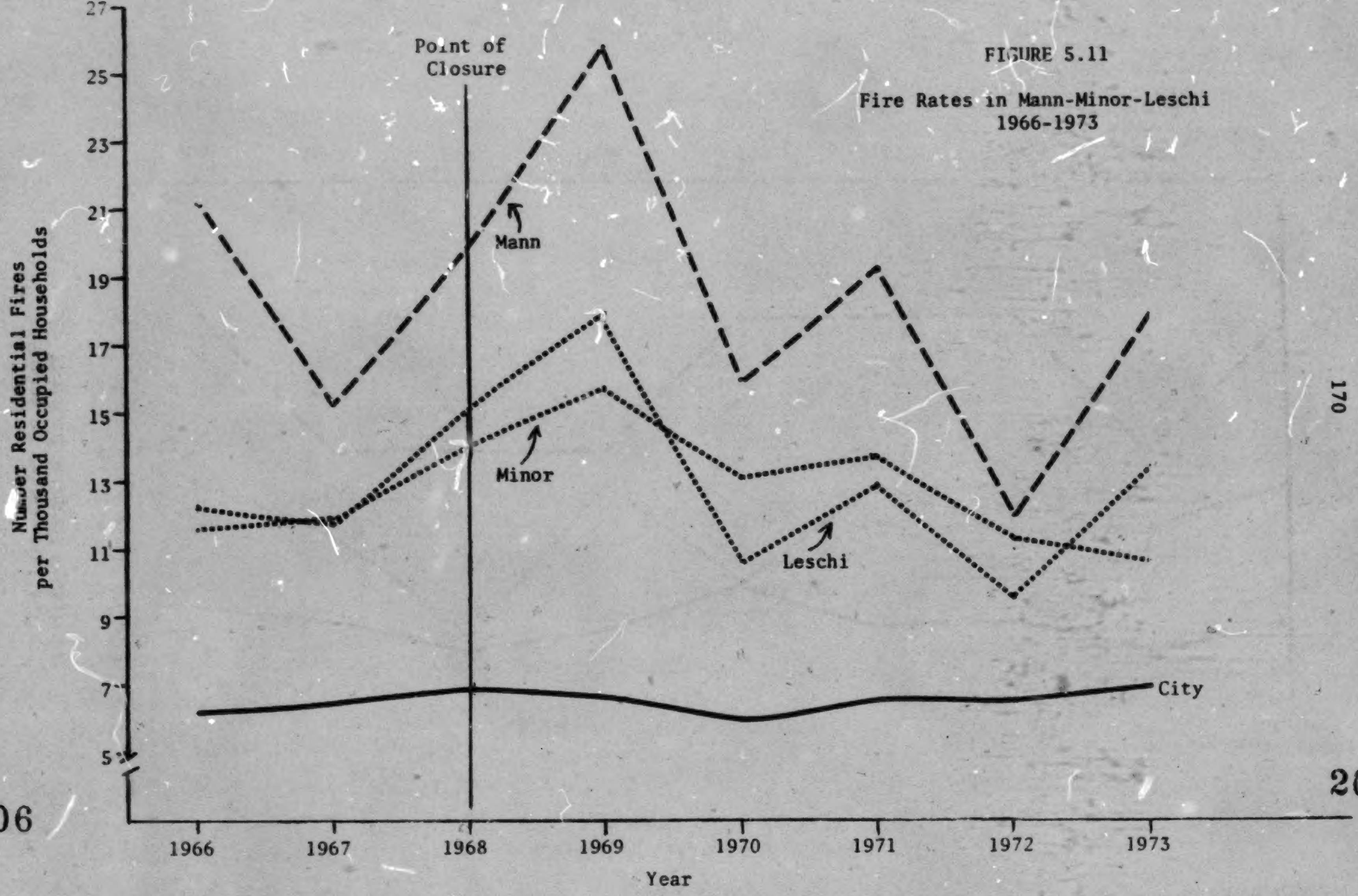


FIGURE 5.12

Fire Rates in Georgetown-Concord
1966-1974

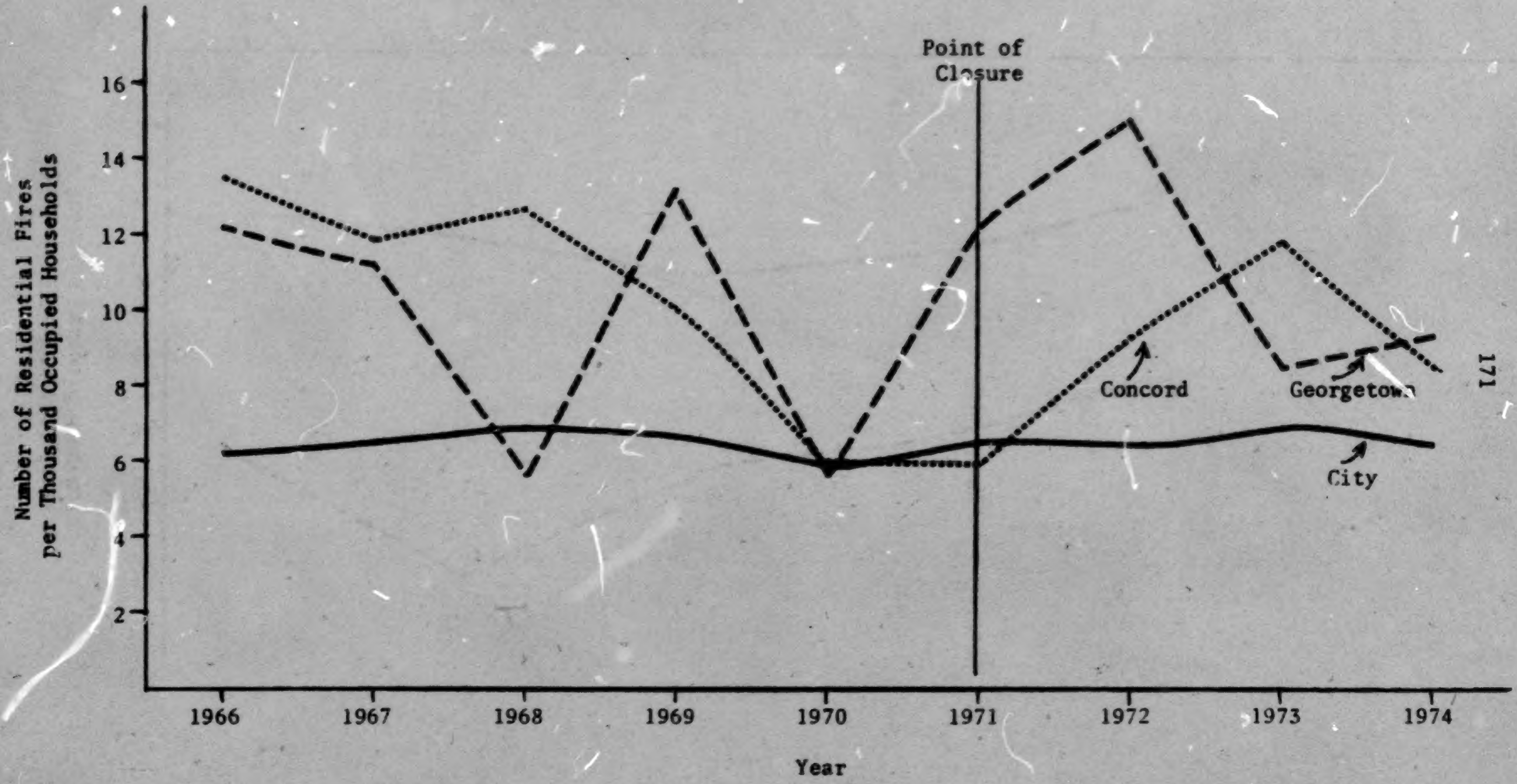


FIGURE 5.13

Fire Rates in Summit
1966-1970

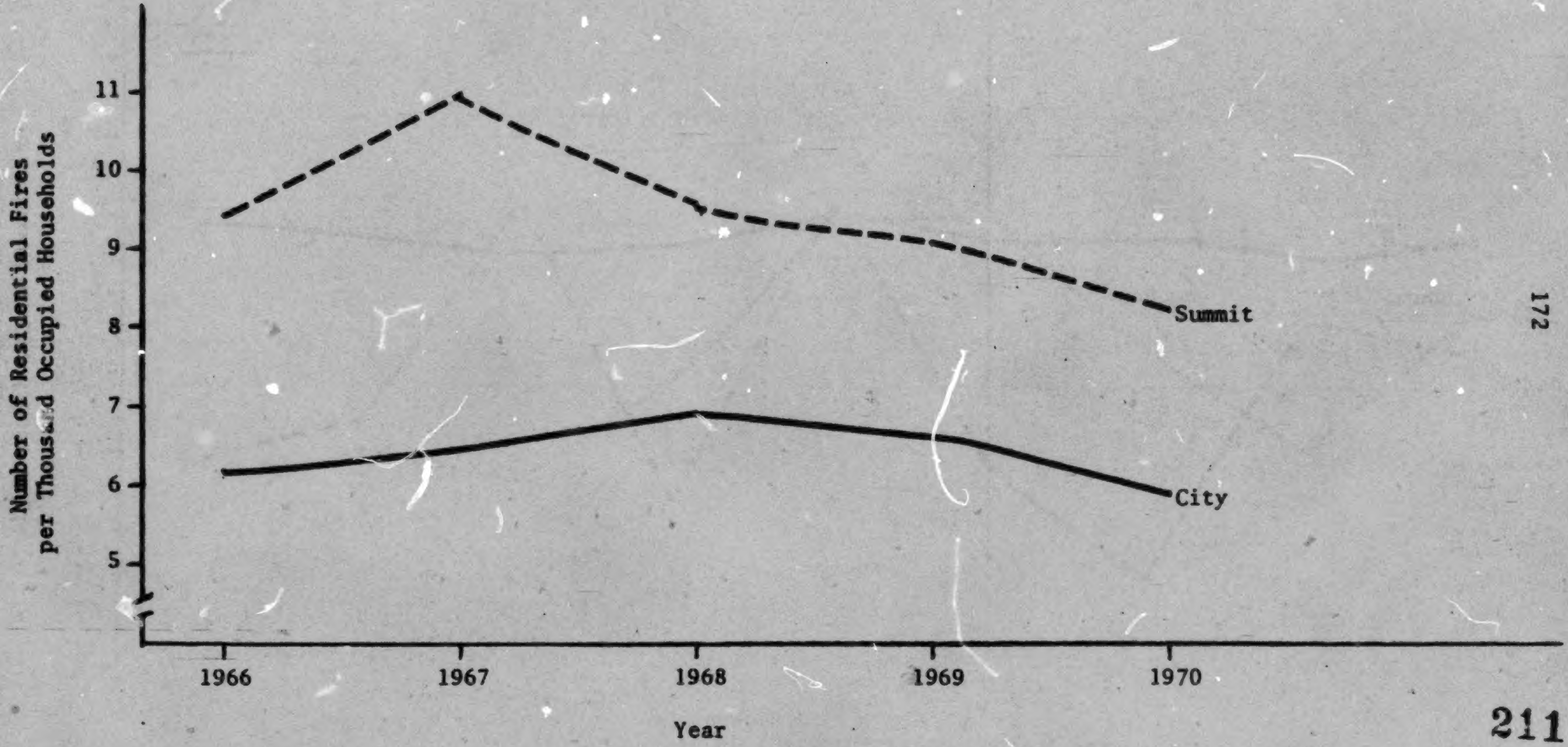


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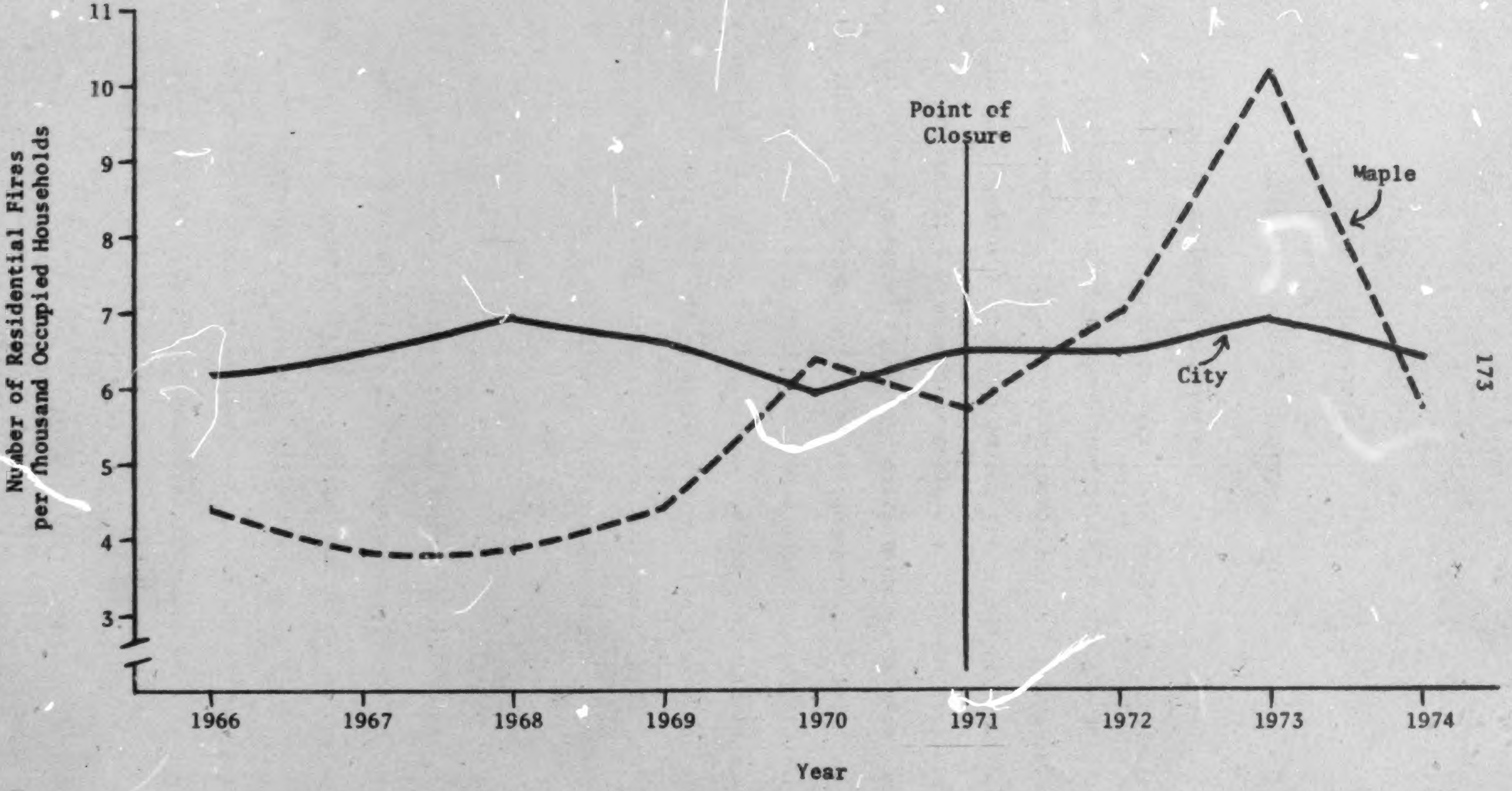
FIGURE 5.14

Fire Rates in Maple
1966-1974



Chapter 6

PUBLIC SUPPORT IN SCHOOL ELECTIONS

Just as variables such as population and enrollment, property values, and crime/fire rates have been examined in the light of the two hypotheses which guide this study, it is possible in a very limited way to consider the relationship between school support by citizens and school closure. One explanation (Hypothesis #1) posits that school support (indicated here by levy election results) in a given neighborhood declines as a result of closure, whereas an alternative hypothesis (Hypothesis #2) states that the decline in levy election support in a given area is the result of prior deteriorating neighborhood conditions which lead to out-migration and eventual school closure. In this chapter, the relationship between citizen support and school closure is examined by the BSSR staff. Being exploratory in nature, this examination focuses upon the specific schools recently closed (or threatened with closure) in the Seattle School District.

Method of Analysis

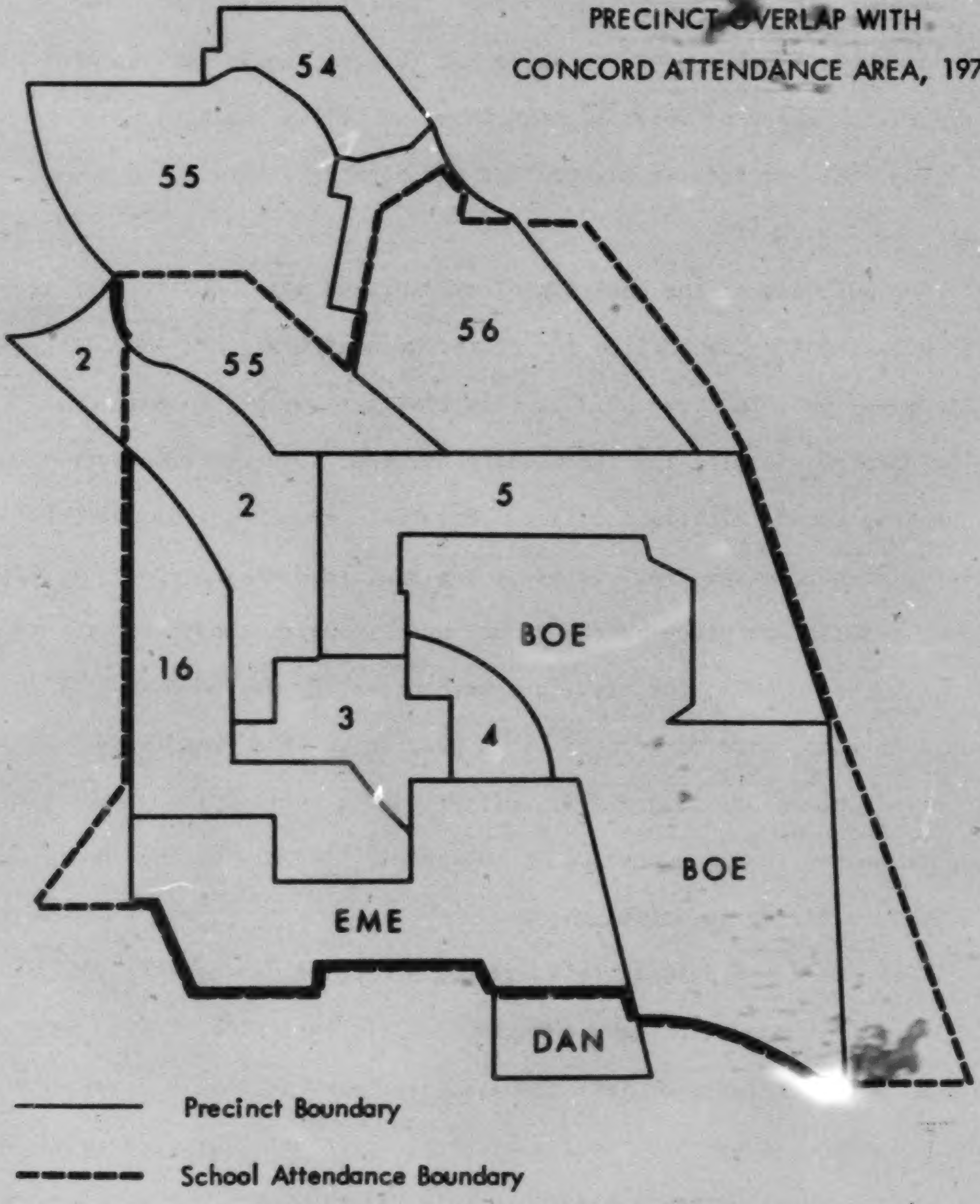
The measure of school support used in this analysis is citizen voting behavior on school levies; a "yes" vote is indicative of support and a "no" vote is indicative of non-support. Specifically, we will focus on the number of "yes" votes cast in the levy as a percentage of the total number of votes cast in the levy. An alternative indicator, which has not been examined in this study, is the number of "yes" votes cast in the levy as a percentage of the total number of individuals who are registered to vote at the time of the election. Since voter turnover is relatively low in all school areas, such a measure, while interesting, would tend to obscure differences in levels of voter support among school attendance areas. For this reason, this particular measure has not been used here as an indication of school support.

For purposes of the analysis, levy election printouts for the years 1966-75 were first obtained from the Seattle School District. Results for all but one of the elections held in this time period were contained in these printouts. Results for the missing November 1969 election were secured from the King County Elections Office. Printouts acquired from the School District list percentage "yes" votes by legislative district precinct. In addition, results are given by the school area in which the precincts were located. Prior to 1971, the precincts were often aggregated making it difficult in some cases to identify in a precise way the "yes" vote by school attendance area. Since 1971, all precincts overlapping with school attendance boundaries have been coded separately, thereby making the school voting pattern easier to establish.

Because of periodic legislative redistricting during the 1966-75 period, precinct boundaries have changed slightly over time. This presented a problem in the analysis of levy results. In order to obtain comparable geographic units, it has been necessary to fit precincts (or aggregates of precincts) to school attendance areas. This "fitting" process was accomplished by drawing precinct boundary lines on school attendance area maps with the aid of census block maps and detailed legislative district maps obtained from the King County Elections Office. Map 6.01 shows the relationship of precinct to school attendance area boundaries in the Concord area

MAP 6.01

PRECINCT OVERLAP WITH
CONCORD ATTENDANCE AREA, 1973*


54
55
2
55
56
2
5
BOE
16
3
4
BOE
EME
DAN
Precinct Boundary
School Attendance Boundary

---

*The precinct boundaries as shown here are for the 1973 elections. Minor changes in these boundaries occured between 1968 and 1973; however these changes should not significantly alter the results as illustrated in Figure 6.05.

for 1973. Maps for the other eight schools are on file at the Bureau of School Service and Research, University of Washington.

A somewhat less critical problem has to do with tracking precincts over time in the closure school areas. Obviously, despite school closure, citizens in closure communities continue to vote on the levy. However, for reporting purposes, precincts in closure areas are generally aggregated with precincts in the attendance area which assumes the closure area as part of its new boundaries. In several cases it is not possible to disaggregate precincts which were once part of the closure area from other precincts which are reported with the closure precincts.

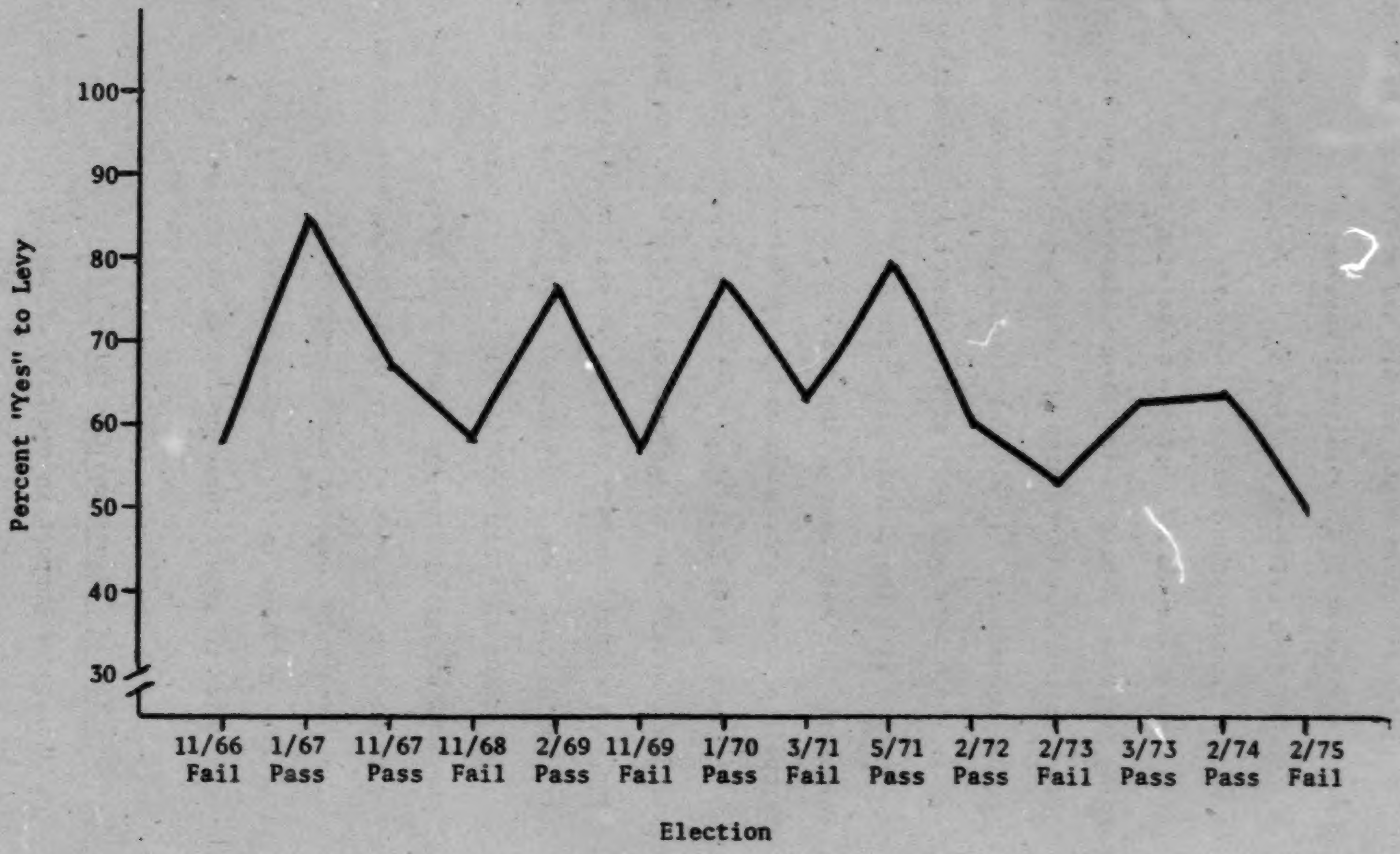
Following this map construction process, precincts were allocated to the appropriate school attendance areas. An attempt was made to include only those precincts which fell 75 percent or more within the designated school attendance area. Due to aggregation of precincts for reporting purposes and to precinct boundary changes, it was not always possible to follow this general guideline. Problems involved in this allocation process are discussed in Attachment 6A. In order to circumvent the dual problems of aggregation and boundary changes and to gain some insight regarding voter support at varying distances from the school location, one part of the analysis compared voter trends in precincts close to the school with those existing in the total attendance area. A brief discussion of the process used to select these precincts is included in Attachment 6B.

School Levy Results in Closure and Control Schools

The pattern of support in the City of Seattle for the years 1966-75 is shown in Figure 6.01. Examination of this chart reveals a general up-down or "saw-tooth" pattern; this is due to the sequencing of first

FIGURE 6.01

Level of School Support, City of Seattle
1966-1975



and second levy elections. This cycle of passing and failing is particularly evident in the years 1968-72 when every first levy attempt failed and each second attempt passed by the necessary 60 percent.

This same pattern exists for the most part in individual school attendance areas (Figures 6.02-6.05), although levels of support are higher in some areas than in others. The following are conclusions drawn from the several plots of levy results.

Interlake-Allen (Figure 6.02, p. 183)

In the Interlake-Allen case, Interlake voters exhibit a consistently higher level of support than do Allen voters, but overall a similar pattern of support appears in both school areas. In the election held closest to the time of closure (the election of May 1971), a higher level of support exists in the Interlake area, but we observe in the two school areas an approximately equal percent increase over the previous levy attempt in March 1971.

Decatur-Maple Leaf (Figure 6.03, p. 184)

In the case of Decatur-Maple Leaf, similar levels of support occur throughout the 1968-75 period. In the election held just before the time of threatened closure (the election of February 1974), levels of support rose sharply in both school areas as compared to a slight rise in the City-wide level of support. No relative change in the Decatur and Maple Leaf voting pattern was observed in the first election following the threatened closure (the election of February 1975).

Mann-Minor-Leschi (Figure 6.04, p. 185)

In the Central Area, Mann and Leschi demonstrate high levels of voter support as well as similar overall patterns. The level of support in the Minor area (the second control school) is lower than the support levels found in either Mann or Leschi, yet the patterns of support that develop through time in the three areas are not dissimilar. In the election held closest to the time of closure (the election of November 1968), all three schools exhibit levels of support greater than the City-wide level, although support levels increased in the Minor area and slightly decreased in the Mann and Leschi areas in that election of November 1968.

Georgetown-Concord (Figure 6.05, p. 186)

In the Georgetown and Concord areas, levels of support are low compared to the City norm. Patterns of support in the two areas do not show the same degree of similarity as in the other closure-control situations. In the election held closest to the time of closure (the election of March 1971), both Georgetown and Concord voters failed to muster the required 60 percent level of support. To conclude, both Georgetown and Concord exhibit low levels of school support, although patterns of support differ from one election to the next. There is no relative loss in support within the Georgetown area following school closure.

In addition to examining school support with respect to the total attendance area of each school, the BSSR staff examined school support in those precincts close to the school. It appears that levels of support in areas close to the school are not dissimilar from levels of support in the total attendance areas in any of the closure schools. These differences between support levels in the total attendance area and areas close to the school (which are included in Attachment 6C) are for the most part less than five percent. Differences greater than five percent do occur in the Concord attendance area. In the Allen attendance area, precincts close to the school consistently demonstrate higher levels of support than does the total attendance area, although differences are small. It would seem that levels of support are much the same throughout the school attendance areas covered in this study and this seems even more true in the case of the closure schools.

School Support and School Closure

In conclusion, little can be said about the relationship between school support and school closure, as patterns of support in control and closure neighborhoods do not differ to a great extent. It is also the case that closeness to the school is not related (in any systematic way) to the levels of school support before and after closure decisions. In short, no support can be found for either Hypothesis #1 or Hypothesis #2.

The factor which seems to account for the general saw-tooth pattern of levy support is the "gearing-up" process which occurs as a result of first-levy failure; that is, from November 1966 until the double levy failure of 1975, voters, after having failed to pass a levy, attempted to increase their numbers (note that the March 1971 levy failed due to insufficient voter turnout) and level of support in order to avoid the consequences of a double levy failure.

LEVY RESULT PLOTS FOR SCHOOL NEIGHBORHOODS

Interlake-Allen

Decatur-Maple Leaf

Mann-Minor-Leschi

Georgetown-Concord

FIGURE 6.02

Level of School Support in Interlake-Allen
1968-1975

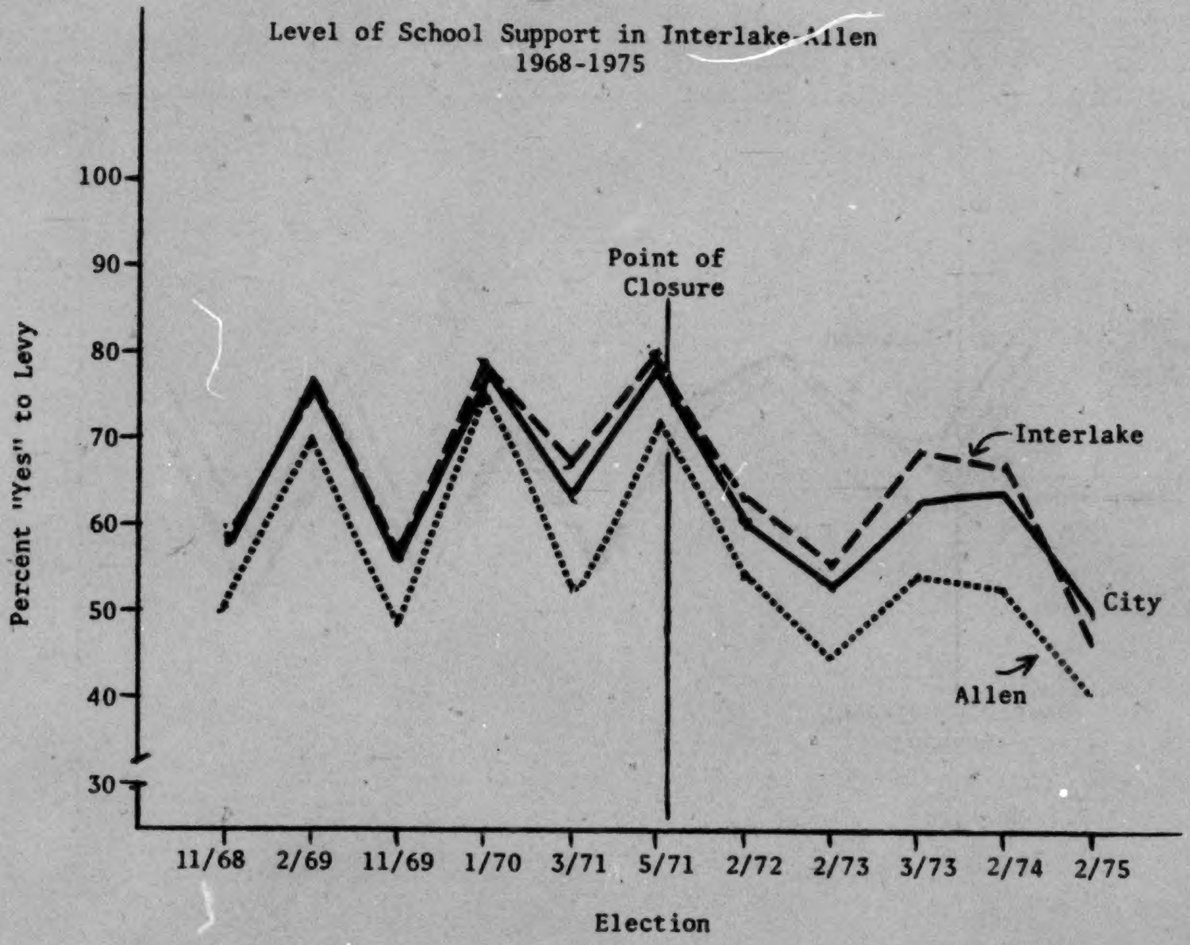


FIGURE 6.03

Level of School Support in Decatur-Maple Leaf
1968-1975

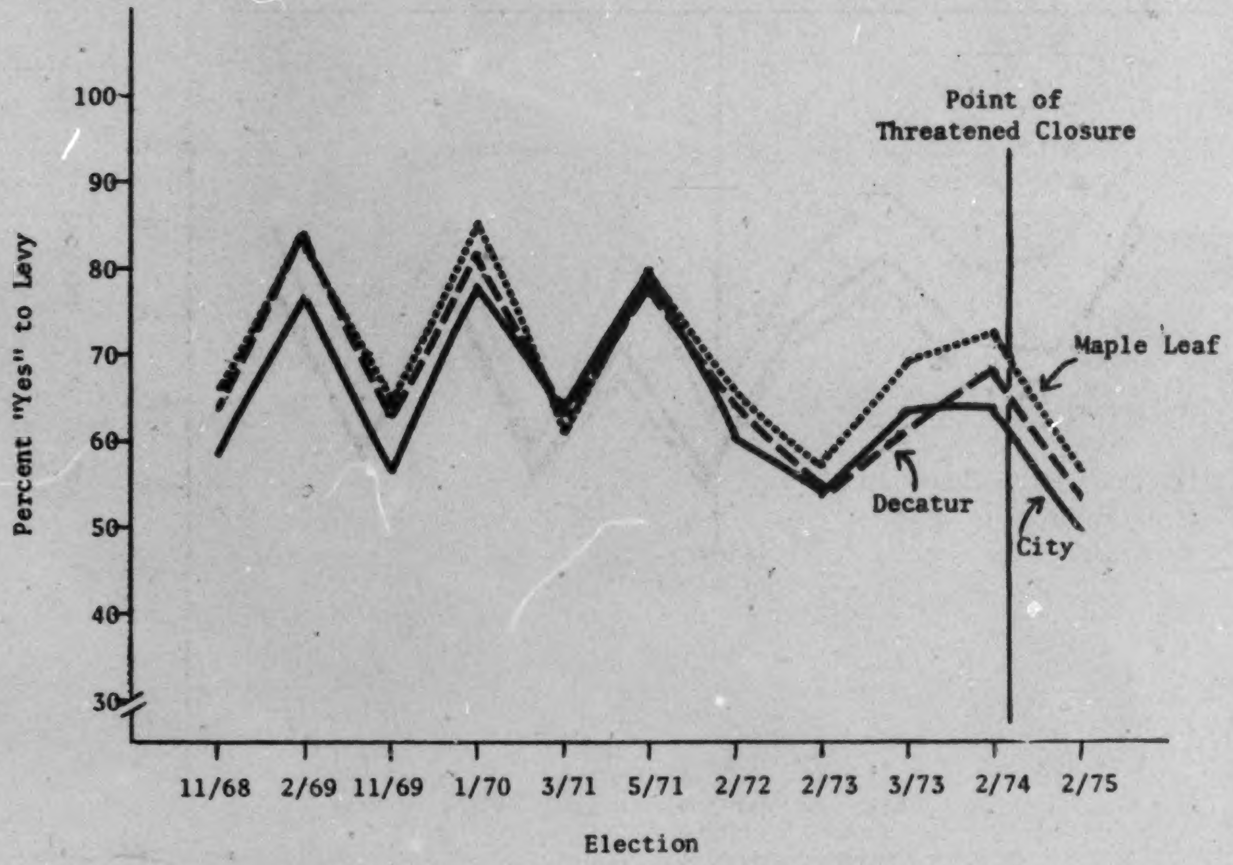


FIGURE 6.04

Level of School Support in Mann-Minor-Leschi
1966-1972

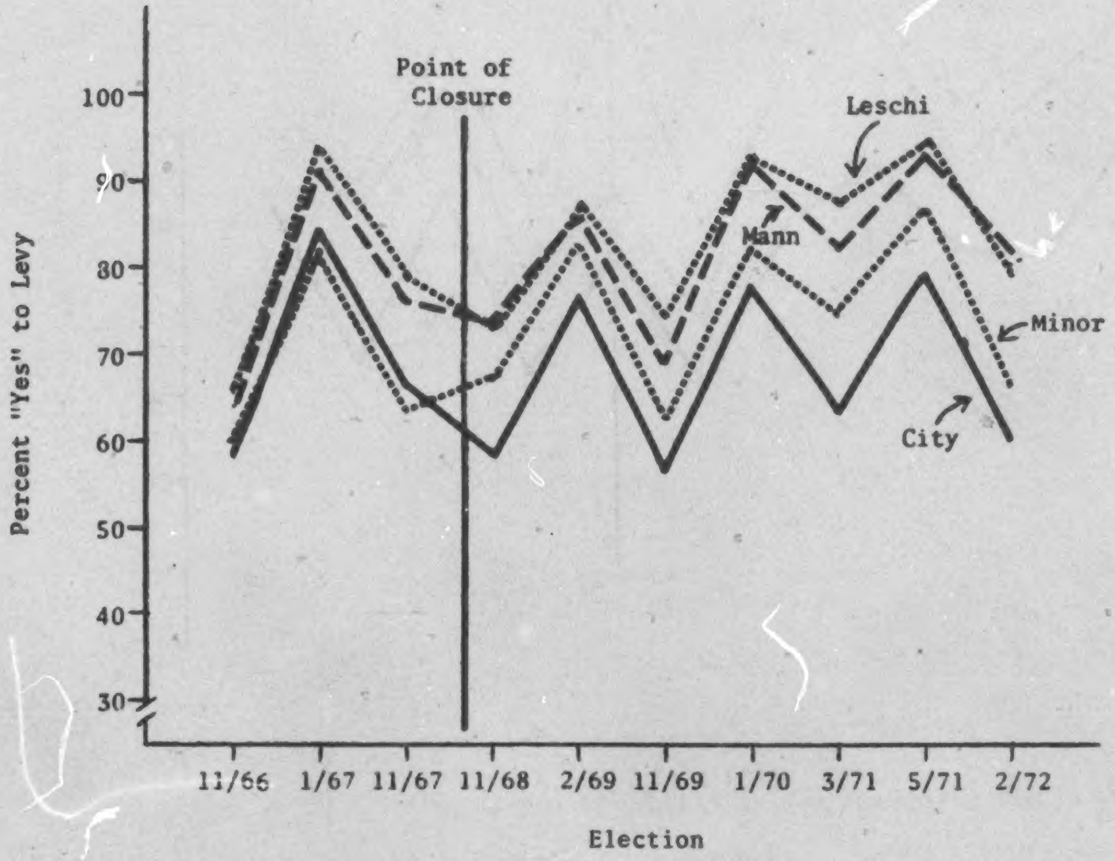
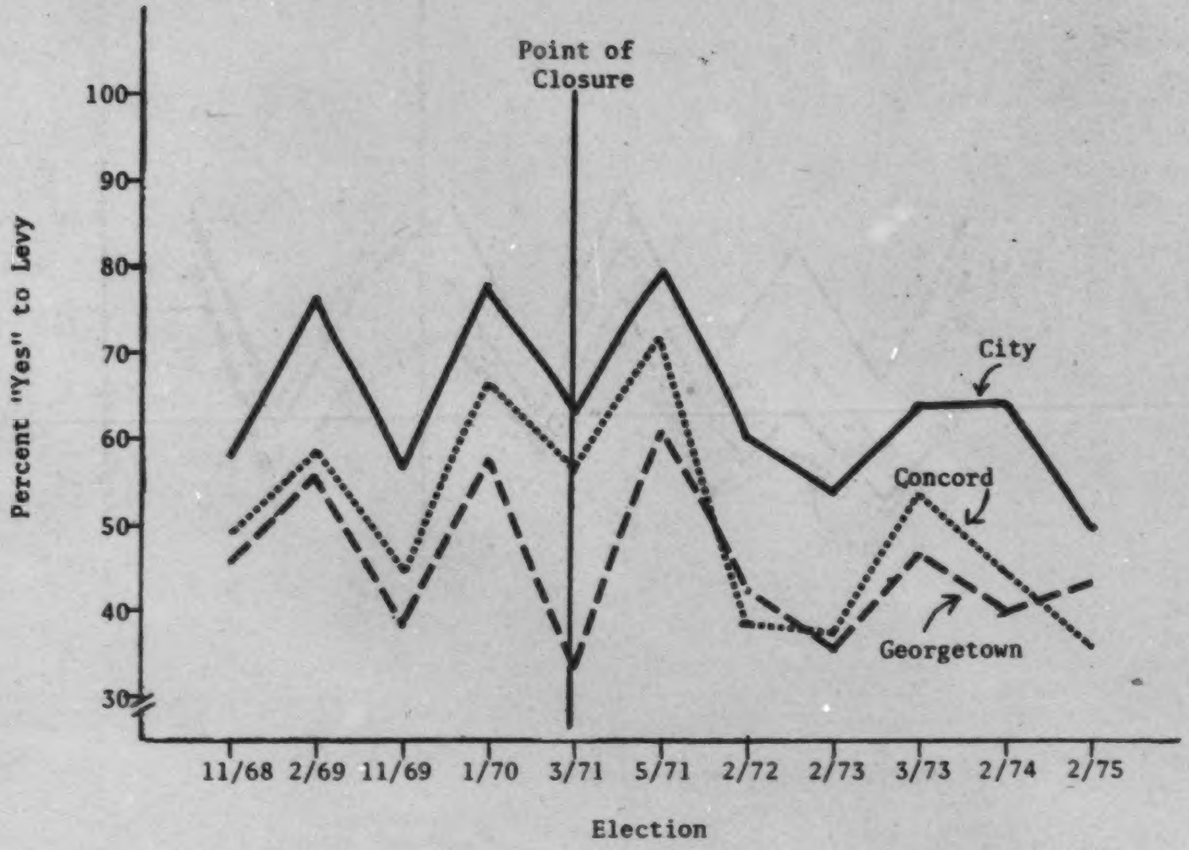


FIGURE 6.05

Level of School Support in Georgetown-Concord
1968-1975



Chapter 7

THE IMPACT OF SCHOOL CLOSURE IN SEATTLE

In previous chapters of this report, the BSSR study team has summarized data from a wide variety of sources with the intent of assessing any possible impacts associated with the closure of public elementary schools in the Seattle District. The variables examined in these assessments of closure impact included population and socioeconomic characteristics, school enrollments, property values, crime/fire rates, and school levy voting patterns. Two hypotheses were used as a basis of exploring these possible impacts:

Hypothesis #1: To the extent that the school is a major component of community identity, its closure will lead to rapid changes in overall community structure.

Hypothesis #2: School closure is the expected result of prior changes in community structure, including the processes of urban growth and succession.

The intent here is not to review the detailed findings reported in the previous chapters, but rather to highlight the application of the two hypotheses in the several closure school settings involved in this particular study and to suggest some useful areas for further study. These summary comments on application of the two hypotheses will be limited to the four closure schools receiving greatest attention in this study, namely, Interlake, Mann, Georgetown and Decatur. (The Summit and Maple Schools were given lesser attention in the analysis.)

Closure Impacts in Interlake, Mann, Georgetown and Decatur

Based on the information sources used in this study, there is absolutely no evidence of rapid pre-closure deterioration in the Interlake attendance area. There is some evidence in the Interlake area of families with children being replaced by families without children in the years following closure. This shift apparently takes place over a 3-4 year period and does not seem to be caused by any sudden exit of families who attended the school prior to closure. Evidence in the Interlake area also suggests an increased property turnover rate and a single year drop in property values following closure. None of these indications of deterioration in the Interlake area is judged substantial in size and they must be viewed as indicating a modest post-closure impact in the Interlake area, at least as it compares to the control area surrounding Allen.

In most respects, the Mann area did not decline relative to Minor or Leschi in either the pre- or post-closure periods. The data base for school enrollment and property variables was particularly weak for the Mann area and the interaction effects with other developments (e.g. mandatory and voluntary transfer programs, community identification efforts) make the identification of any school closure impacts virtually impossible. Based on the data examined in relation to this study, we find no consistent support for either the pre- or post-closure deterioration hypotheses.

Long-term population decline and out-migration of families, despite the presence of schools, appears to have necessitated the closure of Georgetown School. The Georgetown School enrollment declined from 248 to 161 in the three years immediately preceding the closure in 1971. An encroaching industrial growth in the area was simply not compatible with maintenance of any stable residential base or community. Of all the schools studied in this report, Georgetown provides the most support for the pre-closure decline implied in Hypothesis #2. Despite the post-closure community sentiment exhibited in the Georgetown area, the Georgetown School is probably best viewed as a casualty of the inevitable process of urban change.

The case of threatened closure in the Decatur area was added to the study due to the inability to find an appropriate control school for Summit. Because the threatened closure occurred in 1974, only limited post-closure impacts (primarily relating to school enrollments, crime rates, and school levy elections) could be examined in the case of Decatur. Despite this data limitation in the post-closure (or threatened closure) period, it seems reasonable to conclude that there is absolutely no evidence of either pre- or post-closure deterioration in the Decatur situation. Since the data base for Decatur was more recent (and hence reliable) any existing deterioration, at least of the pre-closure type, should have been identified through at least one of the data sources utilized in this study.

Need for Further Investigation

For reasons of weakness in certain of the data sources (as mentioned earlier in this report), it is unlikely that any different picture of closure impact will result from continued examination of the school closures covered in this study. The public survey on attitudes toward closure currently in progress (as part of the Schools and Neighborhoods Project) may yield additional attitudinal comparisons of those residing in the closure school areas before and after closure, but it is unlikely that any further look at the data sources used here will reveal anything new about the impact of past closures in the Seattle District. A more promising area of investigation is the examination of school closure impacts in similar urban communities across the United States. In reality, each of the closures represented in this study exhibited a unique set of circumstances and generalizing across the several situations was impossible. One simply cannot compare the closure of Interlake (in a predominantly residential area in the North part of the City) or Mann (in a predominantly residential segment of Central Seattle) with a closure in the Georgetown community (an area being faced with rapid industrial and commercial growth even before closure). Only as we document the impact pattern in several school neighborhoods of a particular type are we likely to reach any generalizable conclusions about the phenomenon of closure.

In pursuing this additional study, it is well to focus on schools with a reasonably extensive and reliable data base in the time period both before and after closure. This data base should permit analysis according to small geographical units, thereby making possible an assessment of impact in relation to distance from school site. Only as we accumulate numerous impact assessments based upon reasonably reliable data sources can we hope to formulate generalizable statements regarding the phenomenon of school closure in our urban communities.

ATTACHMENTS

Attachment 1A

DATA SOURCES FOR ASSESSING COMMUNITY ATTITUDES TOWARD CLOSURE

(Including Community Leader Interview Guide)

In order to reconstitute the relevant communities' attitudes and actions with respect to specific school closures, a number of different data sources were utilized. No one source alone would provide a very accurate picture of the communities' situations, as some involve reporting by outsiders (e.g. newspapers), some are biased toward one group or another (e.g. community papers, School Board press releases), and suffer from the problem of selective recall (e.g. after-the-fact interviews). By combining each form of school closure information, a more complete picture can be painted.

Clippings files of newspapers are selectively saved at a number of locations in Seattle. Each filing system has its own biases with respect to the kinds of information saved. Therefore, three different newspaper files were consulted: (1) City of Seattle Municipal Library; (2) Pacific Northwest Collection of the University of Washington's Suzzallo Library; and (3) Media Section, Department of District Relations, Seattle School District. Of the three sources, the last was by far the most comprehensive, including complete files from both The Seattle Times and the Seattle Post-Intelligencer for the 1965 through 1974 period, plus more selective files from a wide range of community newspapers. The community newspapers from which articles were gleaned from these files and the elementary school attendance areas which they serve are listed below:

Capitol Hill Times -- Summit, Mann, Minor, Leschi
Seattle Sun -- Summit, Mann, Minor, Leschi
The Medium -- Mann, Minor, Leschi, Georgetown, Concord, Maple
South Park News -- Concord
White Center News -- Concord
Beacon Hill News -- Concord, Georgetown, Maple
University District Herald -- Interlake
Seattle Outlook -- Interlake, Allen
Ballard News-Tribune -- Allen
Lake City/Wedgewood Star -- Decatur, Maple Leaf
Northgate/North Seattle Journal -- Decatur, Maple Leaf

Frequency of clipping availability from each of the above papers varied widely. None gave a very complete picture of the situation in any single neighborhood.

Clippings files in Seattle's Municipal Library varied widely by neighborhood and were extremely comprehensive for some areas, especially Interlake, and contained virtually nothing on others (e.g. Mann, Maple). Because these clippings were organized both by neighborhood (district) and substantive heading (schools), additional information about the neighborhoods in question was also easily accessible. Coverage also included major city-wide dailies and weeklies, and local or neighborhood-specific papers. The Pacific Northwest Collection's files were organized topically only, with coverage extremely variable over time. However, this source (including clippings back into the 1920's and 30's and additional pamphlets and fliers relating to schools) was particularly useful for its historic perspective.

The News Digest and Press Releases Issued files of the Media Section, Department of District Relations, Seattle School District, were also consulted to verify dates of School District decisions and policies and to derive accurate information concerning the District's perspective on school issues. Minutes of all Seattle School Board meetings from 1964 through 1974, prepared by the School Board Secretary following each regular and special session, were also reviewed. These records proved to be somewhat less useful than originally anticipated, as discussions of school closures were often recorded in rather inconspicuous places. For example, first discussion of the Summit closure was found under the heading "School Sprinkler Programs."

Another secondary data source, correspondence received by members of the Seattle School Board, provided a great deal of information about community and individual reactions to their decisions for some of the closures, but little information for others. Correspondence received prior to 1970 has apparently been disposed of permanently. Letters received since 1970 were found unsorted in large boxes marked with the year, and, in a few cases, month of receipt. It was assumed that all correspondence, regardless of its geographic origin, was saved, although there is no way of verifying this assumption.

Several forms of primary data were also collected to help define community reactions to the various school closures. Structured interviews were conducted with selected persons who were identified through newspaper clippings and interpersonal information as being active in a school closure issue either by choice or position. Significantly, no individuals were identified in either the Summit or Maple closures. A number of the people contacted did not recall the closure situation in which they were presumably involved vividly enough to give what they or the interviewer considered accurate responses to the questions. A copy of the survey instrument follows this explanation of data sources.

Information interviews were conducted with local shopkeepers, real estate agents, and other local residents in the study neighborhoods. Interviews were conducted only with those individuals whose residences or businesses were located within three blocks of the school buildings. Questions asked and tactics for gaining information varied considerably; notations were made only of selective parts of each conversation. Many of these conversations arose from questions directed at the researcher while observing and recording activities occurring in and around each school facility. Except in the case of Decatur and Maple Leaf, each school was observed a minimum of five times, all during good weather (i.e., no rain, freezing temperatures, or blustering winds) but varied according to day of the week and time of day. Decatur and Maple Leaf were omitted from this part of the study because of the lack of a true closure situation.

Interviewee ____________ Neighborhood ____________
Interviewer ____________ Date ____________

NEIGHBORHOOD IMPACT STUDY: COMMUNITY LEADER INTERVIEWS

I. General Information

Name of group ____________

What is the purpose of your group? ____________

When was it formed? ____________

What generated the interest in forming a group? ____________

What general types of activities does the group and its members participate in? ____________

How large is the group?
  total membership? ____________
  active membership? ____________ definition of "active"? ____________

What kind of people make up your group? ____________

Do they live in one particular area? ____________ If so, where? ____________

Does the group itself have a definite "service area"? ____________

Do you have any records that might help us substantiate the membership of your group?
  attendance records? ____________
  newspaper clippings? ____________
  minutes from meetings? ____________

How long have you been involved as a member of this group? ____________ yrs.

Are there particular issues you've been most active in? ____________
  If so, what are they? ____________

Do you feel your group's activities with respect to these issues has made any difference? ____________ How so? ____________

II. Neighborhood Characteristics

As an active resident of the ____________ neighborhood, how much do you think the neighborhood has changed in the past 10 years?

(e.g. a lot, little) ____

What kind of changes have occurred that you've noticed? ____________

____

____

Do you think that the neighborhood is getting better or worse as a place to live as a result of these changes? ______________________

____

III. School Closure

The ____________________ school, located at ____________________ was closed in __________. The following questions relate to that event.

When was the school closure first made known to the community and how?

____

Can you recall the school closure issue? ___________________________

Were you personally involved? __________

If so, how? (e.g. as a member of a group? family disruption?)

____

Was this group (___________________) involved? ____________

If so, how? ____

Can you think of any other individuals or groups who were actively involved in the school closure issue? ____________________________

Who or what? ____

____

When the _______________ school was closed, how did the neighborhood residents react? ____

____

About how many (or what percentage) of the residents do you th

reacted this way? __________________

What kinds of things did people do or say to show their reacti

____

____

Has the neighborhood as a whole changed much since the school closed?
__________ How? ______________________________
____

Has this change been localized around the school or spread throughout the neighborhood? ______________________________

Do you think these changes have improved the neighborhood?
____

Do you remember what the school's reputation was before it was closed?
__________ Do you think it was better or worse than most other schools in the city? __________ Do you think that new residents were attracted to the area because of the school?__________

Was the school used for other activities besides regular "schooling" before it was closed? __________ What specific activities do you know of that took place there? ______________________________
____

Where do these activities take place now that the school is closed?
____

Do you know of any activities or groups that had to cease because of the school's closure? ______________________________

Have you noticed any changes in children's behaviors which might be attributable to closing the school? ____________________

To what extent have these changes affected neighborhood children?
____

Do you think they have been good or bad for the children? __________
Why? ____
____

Are there any other comments you'd like to make about the closure of __________ school or other schools in Seattle? __________

(Use space below for any additional comments.)

Attachment 2A

ALLOCATION OF CENSUS TRACTS TO SCHOOL ATTENDANCE AREAS

Allocation or Weighting of Census Tracts to School Attendance Areas
(Based upon Block Statistics in 1970 U.S. Census)

School Attendance Area	Census Tract	Proportion of Census Tract in School Area[a]	Proportion of School Area Represented by Census Tract[b]
Interlake	50	.63	.30
	51	.66	.43
	54	.44	.27
Allen	28	.30	.23
	29	.10	.08
	34	.28	.16
	35	.79	.53
Decatur	22	.19	.35
	24	.65	.65
Maple Leaf	10	.90	.33
	21	.24	.21
	22	.35	.46
Georgetown[c]	93	.03(.17)	.02(.13)
	109	.98(.98)	.98(.87)
Concord	112	1.00	.69
	263	.18	.08
	264	.21	.23
Mann	79	.08	.06
	87	.58	.45
	88	.53	.49
Minor	75	.11	.09
	76	.25	.13
	79	.92	.51
	86	.30	.15
	87	.22	.12
Leschi	78	.15	.19
	87	.08	.05
	88	.31	.25
	89	.50	.51

Allocation or Weighting of Census Tracts to School Attendance Areas (Continued)

School Attendance Area	Census Tract	Proportion of Census Tract in School Area[a]	Proportion of School Area Represented by Census Tract[b]
Summit	73	.48	.04
	74	.40	.17
	81	.96	.10
	82	1.00	.13
	83	1.00	.20
	84	1.00	.15
	85	.76	.13
	86	.40	.07
Maple	93	.11	.04
	100	.07	.12
	104	.49	.76
	110	.08	.08

---

[a] Used in allocating population, housing numbers, etc. to school attendance areas.

[b] Used to establish weighting for median income, vacancy rates, etc. in school attendance areas.

[c] The figures in parentheses were used in relation to 1960 data only. The adjustment was made to compensate for the large number of demolitions occurring in the Georgetown segment of Census Tract 93 during the 1960-69 period.

Attachment 2B

DETAILED DATA TABLES FOR CLOSURE AND CONTROL SCHOOLS

Notes on Data Tables

Population---The 1974 data are based on estimates for July 1, 1974 from the City of Seattle, Office of Policy Planning, and include population living in group quarters.

Age---The 1974 estimates for all age groupings are taken from Cole's Seattle Householder Directory. The percent over 65 for 1974 is actually the percent retired and is approximately twice the percent likely to be over 65 years of age. Because of this difference in categorization between the U. S. Census, Polk Profile documents, and Cole's Seattle Householder Directory, any comparisons using this over-65 age group are suspect.

Households---The 1974 estimates are from Polk Profiles. The one-person households appear to be underestimated for 1974. This is due to differences in the intensity of follow-up in the two data collection efforts. The median income figure used for 1974 is not strictly comparable to those for 1960 and 1970; it tends to underestimate income in wealthier areas and overestimate income in poorer areas. The number of female heads of families is actually the number of such female heads with children under 18 years of age.

Mobility, Employment---The percent in the same house for 1974 is taken from the Polk Profiles and represents the percent of households that had no change in occupancy during 1973-74. For 1960 and 1970, this same figure represents the percent of families living in the same household five years previous.

Mobility rate for 1974 is the total number of occupant moves in 1973 as a percent of the number of households in the designated area.

Unemployment data are for males only. For 1974, these data are taken from the Polk Profiles and are not strictly comparable to the figures for 1960 and 1970.

Housing---The 1974 estimates are from the Polk Profiles. In the case of new units, 1960 and 1970 figures refer to the percent constructed in the preceding ten years. In other words, it is the percent of all residential units existing at the time of the census which have been constructed within the past ten years. For 1974, the percent is for the new units constructed in the single year, 1973-74.

School-Age Population---This is an estimate of the number of children in the 6-12 age group in each of the three years. The 1960 and 1970 figures come directly from the U. S. Census documents. The 1974 figure is derived by projecting the children of ages 2-8 in 1970 ahead to 1974. This should give a reasonable estimate of the K-6 enrollment residing in the indicated attendance area and includes students attending both public and private schools.

City of Seattle*

Characteristic	1960	1970	1960-1970 Change Amount	1960-1970 Change Per Cent	1974	1970-1974 Change Amount	1970-1974 Change Per Cent
POPULATION (000's)	557.1	530.8	-26.5	-4.8	500	-30	-5.5
% White	91.7	87.4	-4.3				
% Black	4.8	7.1	2.3				
% Other	3.5	5.5	2.0				
AGE							
% Under 18	29	25.5	-3.5		24	-1.5	—
# Under 5 (000's)	51.9	35.0	-17.0	-33	30.0	-5.0	-14
# 5 - 17	114.8	100.5	-14.3	-12	90.0	-10.5	-10
% 18 - 64	58	61	3				
% Over 65	12	13	1		26		
HOUSEHOLDS # (000's)	200.5	205.1	5.5	2.7	203.3	-2.8	-1.4
# Families	141.4	133.3	-8.1	-5.8	136.1	2.7	2
# 1-person HH	59.1	72.8	13.7	23	67.2	-5.6	-7.7
% of Households	30	35	5		33	-2	
# Female Head		9751			8850	-900	-8
% of Families		7.3			6.5	-.1	
Popul/Household	2.70	2.48	-.22	-8	2.46	-.02	-1
Median Income	$6942	11037	4095	59	12200		10
% in Poverty	12	6.0	-6				
MOBILITY, EMPLOYMENT							
% in Same House	47	48	1		47	-1	
"Mobility Rate"					48		
% Unemployed (Male)	6.5	8.8	2.3	35	14	5.2	59
# Prof/Tech and Mgr. (000's)	58.7	62.8	4.1	7			2
% Prof/Tech and Mgr.	26	28	2		29	1	
HOUSING							
Residential Units (000's)	216.0	221.9	5.9	2.7	217.8	-4.[illegible]	-1.9
Vacant Units (000's)	15.4	15.8	+.4	2	14.5	-1.3	-8
% Vacant	7	7			6.6	-.4	
Owner-occupied(000s)	115.1	111.6	-3.5	-3	116.1	+4.5	4
% Owner	57	54	-3		57	+3	
Renters (000's)	85.5	94.4	+9.0	10	87.1	-7.3	-8
Median Value	13500	19600	+6100	45			
Median Rent	75	106		41			
% New Units	10	16			3.5 (1 yr)		
Commercial Firms (000's)					27.7		
% Comm. Vacant					5.0		

*These figures are for the City of Seattle and therefore exclude two census tracts (263, 264) which overlap with the Seattle School District but are not in the City. The omission does not significantly change any of the data.

Interlake SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change		1974	1970-1974 Change	
			Amount	Per Cent		Amount	Per Cent
POPULATION	6770	6289	-481	-7	5825	-464	-7
% White	98.5	94.5	-4				
% Black	0	1	1				
% Other	1.5	4.5	3				
AGE							
% Under 18	29	24	-5	-17	21	-3	-11
# Under 5	552	370	-182	-33	275	-95	-26
# 5 - 17	1436	1177	-259	-18	1065	-112	-10
% 18 - 64	55	60	5				
% Over 65	16	15	-1		26		
HOUSEHOLDS #	2366	2467	101		2413	-54	
# Families	1768	1553	-215	-12	1630	77	5
# 1-person HH	598	914	+316	53	783	-131	-14
% of Households	25	37	12		32	-5	
# Female Head		111			97	-14	-13
% of Families		7.1			6.0		
Popul/Household	2.85	2.55	-.3	-11	2.40	-.15	-6
Median Income	$6515	10265	3750	58	11600		13
% in Poverty	14	5	-9				
MOBILITY, EMPLOYMENT							
% in Same House	51	47	-4		42	-5	
"Mobility Rate"					56		
% Unemployed (Male)	6.6	8.3	1.7	26	19.	10.7	129
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	21	28	7		24	-4	
HOUSING							
Residential Units	2490	2582	92	4	2554	-28	-1
Vacant Units	123	114	-9	-7	140	+26	22
% Vacant	5	4.4			5.5		
Owner-occupied	1468	1323	-145	-10	1323		
% Owner	62	54	-8		55	1	
Renters	899	1145	246	27	1091	-54	-5
Median Value	11950	17300	5350	45			
Median Rent	$83	$114		37			
% New Units	7	12	5		3.6 (1 yr)		
Commercial Firms					200		
% Comm. Vacant					11		

School Age Population (ages 6-12): 1960 - 588
1970 - 460
1974 - 372

Allen SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	1960-1970 Change Per Cent	1974	1970-1974 Change Amount	1970-1974 Change Per Cent
POPULATION	6504	6091	-413	-6	5710	-350	-6
% White	98.5	97.5	-2.0				
% Black	.1	.5	.4				
% Other	.4	2.0	1.6				
AGE							
% Under 18	30	26	-4	-13	24.5	-1.5	-6
# Under 5	512	401	-111	-22	350	-51	-13
# 5 - 17	1416	1174	-242	-17	1050	-124	-11
% 18 - 64	54	57	3				
% Over 65	16	17	1		20		
HOUSEHOLDS #	2237	2297	60		2252	-45	
# Families	1747	1584	-163	-9	1635	51	3
# 1-person HH	490	713	223	46	617	-96	-13
% of Households	22	31	9		27	-4	
# Female Head		103			90	-13	-13
% of Families		6.5			5.5		
Popul/Household	2.9	2.6	-.3	-12	2.42	-.18	-7
Median Income	$6560	9970	3410	52	11468		15
% in Poverty	13	7	-6				
MOBILITY, EMPLOYMENT							
% in Same House	52	53	1		51	-2	
"Mobility Rate"					54		
% Unemployed (Male)	6.2	8.4	2.2	35	13.8	5.4	64
# Prof/Tech and Mgr.	502	503					
% Prof/Tech and Mgr.	20	21.5	1.5		21.5		
HOUSING							
Residential Units	2330	2388	58	25	2375	-13	-.5
Vacant Units	93	93			123	30	30
% Vacant	4	4			5		
Owner-occupied	1542	1490	-52	-3	1520	30	2
% Owner	69	65	-4		68	3	
Median Value	$12200	17800	5600	46			
Renters	685	806	121	18	730	-76	-9
Median Rent	$194	113		20			
% New Units	9	5.7			2(1 yr.)		
Commercial Firms					161		
% Comm. Vacant					14		

School Age Population (ages 6-12): 1960 - 600
1970 - 5[illegible]0
1974 - 640

Decatur SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	Per Cent	1974	1970-1974 Change Amount	Per Cent
POPULATION	3762	3126	-636	-17	2986	-140	-4.5
% White	99	98	-1				
% Black							
% Other	1	2	+1				
AGE							
% Under 18	40	33	-7	-16	29	-4	-12
# Under 5	537	257	-280	-52	220	-37	-14
# 5 - 17	986	787	-199	-20	658	-129	-16
% 18 - 64							
% Over 65	4.6	7.3	2.7	16.2			
HOUSEHOLDS #	1083	1037	-46		1046	+9	
# Families	1019	884	-132	-12	887	+3	<1
# 1-person HH	64	153	89	139	159	+6	4
% of Households	6	15	9		15	-	
# Female Head		58			48	-10	-17
% of Families		6.6			5.4		
Popul/Household	3.47	3.05	-.42	-12	2.82	-.23	-8
Median Income	$7614	13700	6086	80	14500		6
% in Poverty	9	4	-5				
MOBILITY, EMPLOYMENT							
% in Same House	44	57	13	30	69	12	
"Mobility Rate"					32		
% Unemployed (Male)	2.9	5.9	3	100	8.2	2.3	39
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	40	42	2		42		
HOUSING							
Residential Units	1158	1053	-105	-9	1061	8	<1
Vacant Units	76	16	-60	-80	21	5	30
% Vacant	6.5	1.5	-5		2	.5	
Owner-occupied	785	848	63	8	853	5	<1
% Owner	73	82	9		82		
Median Value	16850	26440	7600	57			
Renters	297	189	-108		187	-2	-1
Median Rent	72	136		89			
% New Units	33	11			2 (1 yr)		
Commercial Firms					38		
% Comm. Vacant					11		

School Age Population (ages 6-12): 1960 - 500
1970 - 370
1974 - 310

Maple Leaf SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	Per Cent	1974	1970-1974 Change Amount	Per Cent
POPULATION	4114	4504	+390	9	4320	-185	-4
% White	99	97	-2				
% Black		1	1				
% Other	1	2	1				
AGE							
% Under 18	41	35	-6	-15	31.5	-3.5	-10
# Under 5	553	312	-241	-44	261	-51	-16
# 5 - 17	1158	1248	90	8	1100	-148	-12
% 18 - 64	54	59	5				
% Over 65	5	6	1		14		
HOUSEHOLDS #	1212	1396			1404		
# Families	1101	1192	91	8	1204	12	1
# 1-person HH	111	204	93	84	200	-4	-2
% of Households	9	15	6		14	-1	
# Female Head		37			49	-8	-14
% of Families		4.8			4.1		
Popul/Household	3.45	3.25	-.2	-6	3.05	-.2	-7
Median Income	$7720	14000	6280	81	14825	825	6
% in Poverty	7	3	-4				
MOBILITY, EMPLOYMENT							
% in Same House	50	56	6		58	2	.
"Mobility Rate"					27		
% Unemployed (Male)	3.5	6.6	3.1	84	9.6	3.5	45
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	40	36	-4		38	2	
HOUSING							
Residential Units	1218	1448	230	19	1437	-11	- <1
Vacant Units	46	50	4	8	44	-6	-12
% Vacant	3.8	3.5	-.3		3	-.5	
Owner-occupied	1007	1181	154	15	1182	1	
% Owner	86	83	-3		83		
Renters	165	237	72	44			
Median Value	17325	28110	10800	62			
Median Rent	$94	$130		38			
% New Units	50	22			2 (1 yr)		
Commercial Firms					66		
% Comm. Vacant					7		

School Age Population (ages 6-12): 1960 - 610
1970 - 530
1974 - 375

Georgetown SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	1960-1970 Change Per Cent	1974	1970-1974 Change Amount	1970-1974 Change Per Cent
POPULATION	3813	2100	-1713	-45	1630	-470	-23
% White	94	90	-4				
% Black	2	2					
% Other	4	8	+4				
AGE							
% Under 18	28	24	-4		19	-5	
# Under 5	379	179	-200	-53	100	-79	-56
# 5 - 17	726	352	-374	-52	205	-147	-49
% 18 - 64	58	61	3				
% Over 65	13	14	1		37		
HOUSEHOLDS #	1434	938	-496		692	-246	
# Families	923	529	-394	-43	405	-124	-23
# 1-person HH	511	409	-102	-20	287	-122	-30
% of Households	36	44	8		44		
# Female Head		52			37	-15	-30
$ of Families		9.8			9.1		
Popul/Household	2.55	2.26	-.29	-13	2.0	-.26	-13
Median Income	$5308	7864	2056	35	10370		32
% in Poverty	14	11	-3				
MOBILITY, EMPLOYMENT							
% in Same House	48	41	-7		44	+3	
"Mobility Rate"					95		
% Unemployed (Male)	11.3	16.3	5	44	18	1.7	10
# Prof/Tech and Mgr.		50			75		
% Prof/Tech and Mgr.	10	6	-4		12	+6	
HOUSING							
Residential Units	1609	1098	-511	-32	893	-205	-19
Vacant Units	174	160	-14	-8	196	36	23
% Vacant	11	15	4		22	7	
Owner-occupied	665	356	-309	-46	346	-10	-2
% Owner	46	38	-8		50	12	
Renters	770	582	-188	-24	347	-285	-41
Median Value	$9300	15300	6000	65			
Median Rent	64	77	13	20			
% New Units	5.3	1.1			3.3 (1 yr)		
Commercial Firms					776		
% Comm. Vacant					14		

School Age Population (ages 6-12):
1960 - 420
1970 - 160
1974 - 105

Concord SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	1960-1970 Change Per Cent	1974	1970-1974 Change Amount	1970-1974 Change Per Cent
POPULATION	4955	4444	-511	-10	4060	-380	-8.5
% White	97.5	95.5	-2				
% Black	.5	1.5	1				
% Other	2	3	1				
AGE							
% Under 10	33	28	-5	-14	26	-3	-10
# Under 5	556	388	-168	-30	300	-88	-23
# 5 - 17	1105	852	-253	-23	755	-97	-11
% 18 - 64	57	60	3				
% Over 65	10	12	2		27		
HOUSEHOLDS #	1673	1666	-7		1660	-6	
# Families	1295	1129	-166	-13	1162	33	3
# 1-person HH	378	537	159	42	498	-39	-7
% of Households	23	32	9		30	-2	
# Female Head		79			75	-4	-5
% of Families		7.[illegible]			6.5		
Popul/Household	2.95	2.55	-.4	-16	2.4	-.15	-6
Median Income	$6143	9922	3780	62	11080		11
% in Poverty	17	8	-9				
MOBILITY, EMPLOYMENT							
% in Same House	46	46			40		-13
"Mobility Rate"					77		
% Unemployed (Male)	5.6	13.2	7.6	120	19	6	-46
# Prof/Tech and Mgr.	266	254	-12				
% Prof/Tech and Mgr.	14	16	2		14	-2	
HOUSING							
Residential Units	1808	1840	32	1.8	1700	-140	-8
Vacant Units	136	174	38	28	179	5	3
% Vacant	7.5	9.5	2		10.5	1	
Owner-occupied	1025	861	-164	-16	802	-59	-7
% Owner	62	52	-10		53	1	
Median Value	$10350	16450	6100	59			
Rentors	645	805	160	25	719	-86	-11
Median Rent	77	99	22	29			
% New Units	23	21			4(1yr.)		
Commercial Firms					270		
% Comm. Vacant					10		

School Age Population (ages 6-12): 1960 - 440
1970 - 365
1974 - 250

Mann SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	1960-1970 Change Per Cent	1974	1970-1974 Change Amount	1970-1974 Change Per Cent
POPULATION	5561	4263	-1298	-23	3910	-353	-8
% White	18	8	-10				
% Black	64	83	+19				
% Other	18	9	-9				
AGE							
% Under 18	34	33	-1		33	No Change	
# Under 5	627	390	-237	-38	330	-60	-15
# 5 - 17	1280	1023	-257	-20	960	-63	-6
% 18 - 64	56	57	1				
% Over 65	10	10		20			
HOUSEHOLDS #	1778	1504	-274		1546	42	
# Families	1269	994	-275	-22	1058	64	6
# 1-person HH	509	510	1		488	-22	-4
% of Households	28	33	5		31	-2	
# Female Head		213			183	-30	-14
% of Families		21.4			17.3		
Popul/Household	3.13	2.83	-.3	11	2.53	-.3	-12
Median Income	5235	7965	2730	52	11224		41
% in Poverty	21	16.5	-4.5				
MOBILITY, EMPLOYMENT							
% in Same House	52	57	5	9	66		
"Mobility Rate"					26		
% Unemployed (Male)	10.6	10.9	.3	3	20.3	9.4	86
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	13	13			13		
HOUSING							
Residential Units	1925	1868	-57	-3	1794	-74	-4
Vacant Units	148	355	107	72	251	-104	-29
% Vacant	8	19	11		14	-5	
Owner-occupied	869	725	-144	-17	788	+63	9
% Owner	49	48	-1		50	2	
Renters	908	788	-120	-13	755	-33	-4
Median Value	10000	16350	6350	64			
Median Rent	70	88		26			
% New Units	3	8			3 (1 yr)		
Commercial Firms					145		
% Comm. Vacant					13		

School Age Population (ages 6-12): 1960 - 600
1970 - 425
1974 - 385

Minor SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	1960-1970 Change Per Cent	1974	1970-1974 Change Amount	1970-1974 Change Per Cent
POPULATION	8800	6123	-2677	-30	5375	-748	-12
% White	55	45	-10				
% Black	33	44	11				
% Other	12	11	-1				
AGE							
% Under 18	23	21	-2		18	-3	
# Under 5	765	441	-324	-42	320	-121	-27
# 5 - 17	1276	857	-419	-33	640	-217	-25
% 18 - 64	58.5	60	1.5				
% Over 65	18.3	19.5	1.2		34		
HOUSEHOLDS #	3810	2987	-823		2859	-128	
# Families	2095	1344	-751	-36	1344	n.c.	0
# 1-person HH	1715	1643	-72	-4	1515	-128	-8
% of Households	45	55	10		53	-2	
# Female Head		270			172	-98	-37
% of Families		20.1			12.8	-8	
Popul/Household	2.31	2.05	-.26	-13	1.88	-.17	-8
Median Income	$5245	6650	1405	27	10500	3850	58
% in Poverty	23	19	-4				
MOBILITY, EMPLOYMENT							
% in Same House	39	38	-1	-2	29		
"Mobility Rate"					58		
% Unemployed (Male)	10.5	12	1.5	14	20.8	8.8	73
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	18	17	-1		19	2	
HOUSING							
Residential Units	4230	3700	-530	-13	3350	-350	-9
Vacant Units	420	710	290	69	490	-220	-31
% Vacant	10	18	8		15	-3	
Owner-occupied	1067	925	-142	-15	1005	+80	9
% Owner	28	25	-3		30	+5	
Renters	3163	2775	-388	-12	2345	-430	-15
Median Rent	70	90	20				
% New Units	3.5	13			4(1yr.)		
Commercial Firms		—			375		
% Comm. Vacant					8		

School Age Population (ages 6-12): 1960 - 780
1970 - 500
1974 - 350

Leschi SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change Amount	1960-1970 Change Per Cent	1974	1970-1974 Change Amount	1970-1974 Change Per Cent
POPULATION	5583	4793	-790	-14	4415	-378	-8
% White	or less 34	22	-12				
% Black	54	71	17				
% Other	12	7	-5				
AGE							
% Under 18	25	24	-1		22	-2	
# Under 5	620	410	-210	-34	313	-97	-24
# 5 - 17	1321	1198	-123	-9	1100	-98	-8
% 18 - 64	55	57	2				
% Over 65	10	9	-1		15		
HOUSEHOLDS #	1778	1676	-102	-6	1697	21	
# Families	1353	1124	-229	-17	1237	113	10
# 1-person HH	425	552	127	30	460	-92	-17
% of Households	24	33	9		27	-6	
# Female Head		177			172	-5	-3
% of Families		15.7			13.9	-.5	
Popul/Household	3.14	2.86	-.28	-10	2.60	-.26	-10
Median Income	6145	9300	3155	51	12200		31
% in Poverty	14	12	-2				
MOBILITY, EMPLOYMENT							
% in Same House	50	50			60		
"Mobility Rate"					34		
% Unemployed (Male)	6.6	9.3	2.7	41	15	6	61
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	20	20			21	1	
HOUSING							
Residential Units	1870	1956	86	4.6	1908	-48	-2
Vacant Units	124	314	190	153	210	-104	-33
% Vacant	6.6	16	9.4		11	-5	
Owner-occupied	1072	963	-109	-10	997	34	3
% Owner	61	59	-2		59		
Renters	674	679	5	<11	701	22	3
Median Value	11120	19350	8230	74			
Median Rent	83	104		25			
% New Units	10.5	10			5 (1 yr)		
Commercial Firms					117		
% Comm. Vacant					14		

School Age Population (ages 6-12): 1960 - 580
1970 - 425
1974 - 425

Summit SCHOOL DISTRICT

Characteristic	1960	1970	1960-1970 Change		1974	1970-1974 Change	
			Amount	Per Cent		Amount	Per Cent
POPULATION	23750	17205	-6545	-28	15255	-1950	-11
% White	96	90	-6				
% Black	1	4	3				
% Other	3	6	3				
AGE							
% Under 18	5.6	3.3	-2.3		2	-1.3	
# Under 5	537	245	-292	-54	310	-270	-47
# 5 - 17	785	335	-450	-57			
% 18 - 64	72	67	-5				
% Over 65	23	30	7				
HOUSEHOLDS #	16156	12743			11645		
# Families	4362	2931	-1431	-33	2907	-24	-1
# 1-person HH	11794	9812	-1982	-17	8738	-1074	-11
% of Households	73	77	4		75	-2	
# Female Head		177			91	-86	-50
% of Families		6.0			3.1		
Popul/Household	1.47	1.35	-.12	-8	1.31	-.04	-3
Median Income	5375	7840		42	9780		28
% in Poverty	30	14	-16				
MOBILITY, EMPLOYMENT							
% in Same House	29	31	+2		23		
"Mobility Rate"					125		
% Unemployed (Male)	14	17	3	21	15	-2	-12
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	24	24			28	4	
HOUSING							
Residential Units	19400	14770	-4630	-24	13500	-1270	-9.5
Vacant Units	3240	2025	-1215	-38	1860	-165	-8
% Vacant	16.8	13.7	-3.1		13.9	+.2	
Owner-occupied	757	576	-181	-24	445	-131	-23
% Owner	4	4			3.3	-.7	
Renter	15390	12167	-3223	-21	11200	-967	-8
Median Rent	58	90	32				
% New Units	8	11	3		2.4(1yr.)		
Commercial Firms					5200		
% Comm. Vacant					9.6		

School Age Population (ages 6-12): 1960 - 300
1970 - 200
1974 - 110

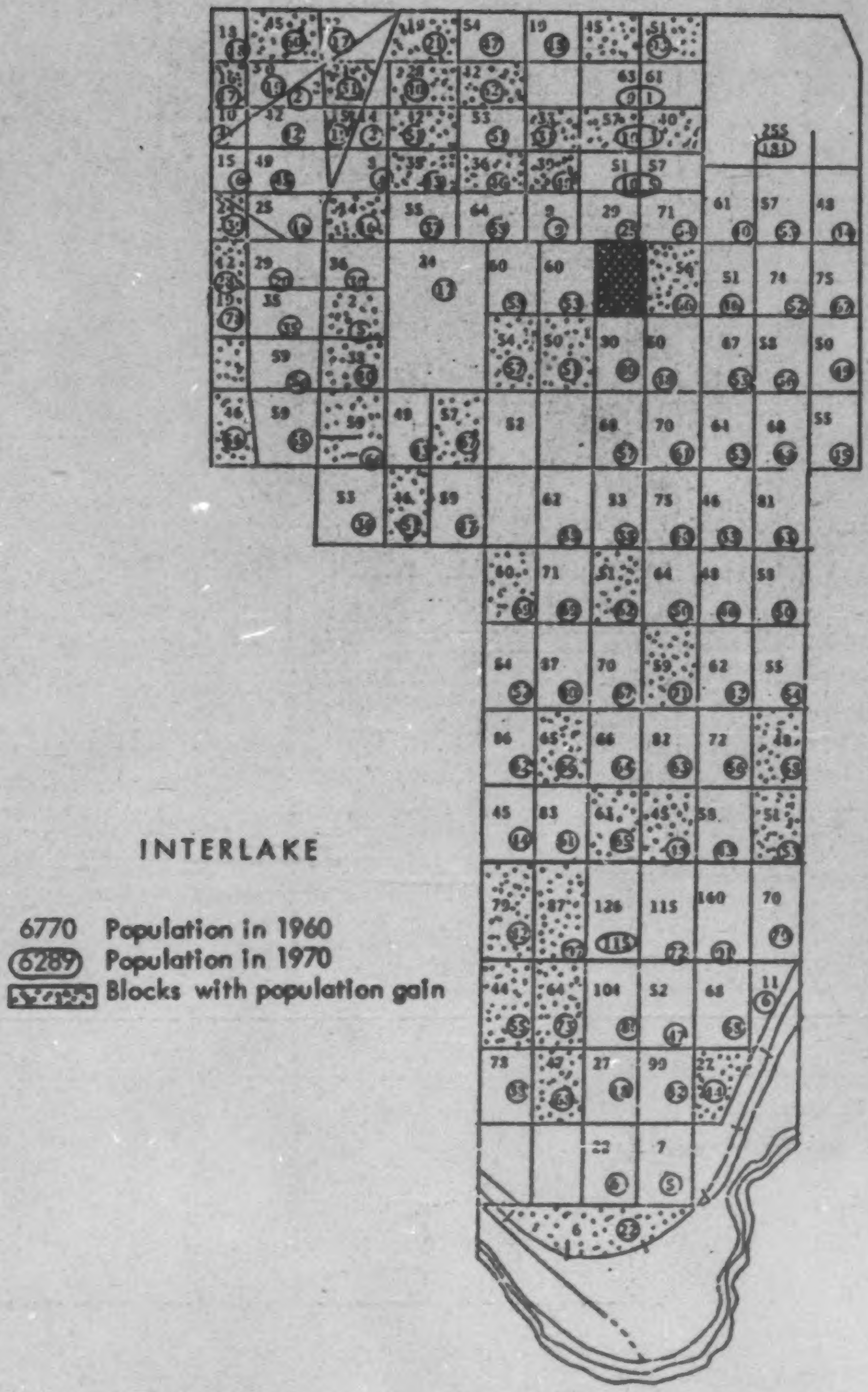
Maple SCHOOL DISTRICT

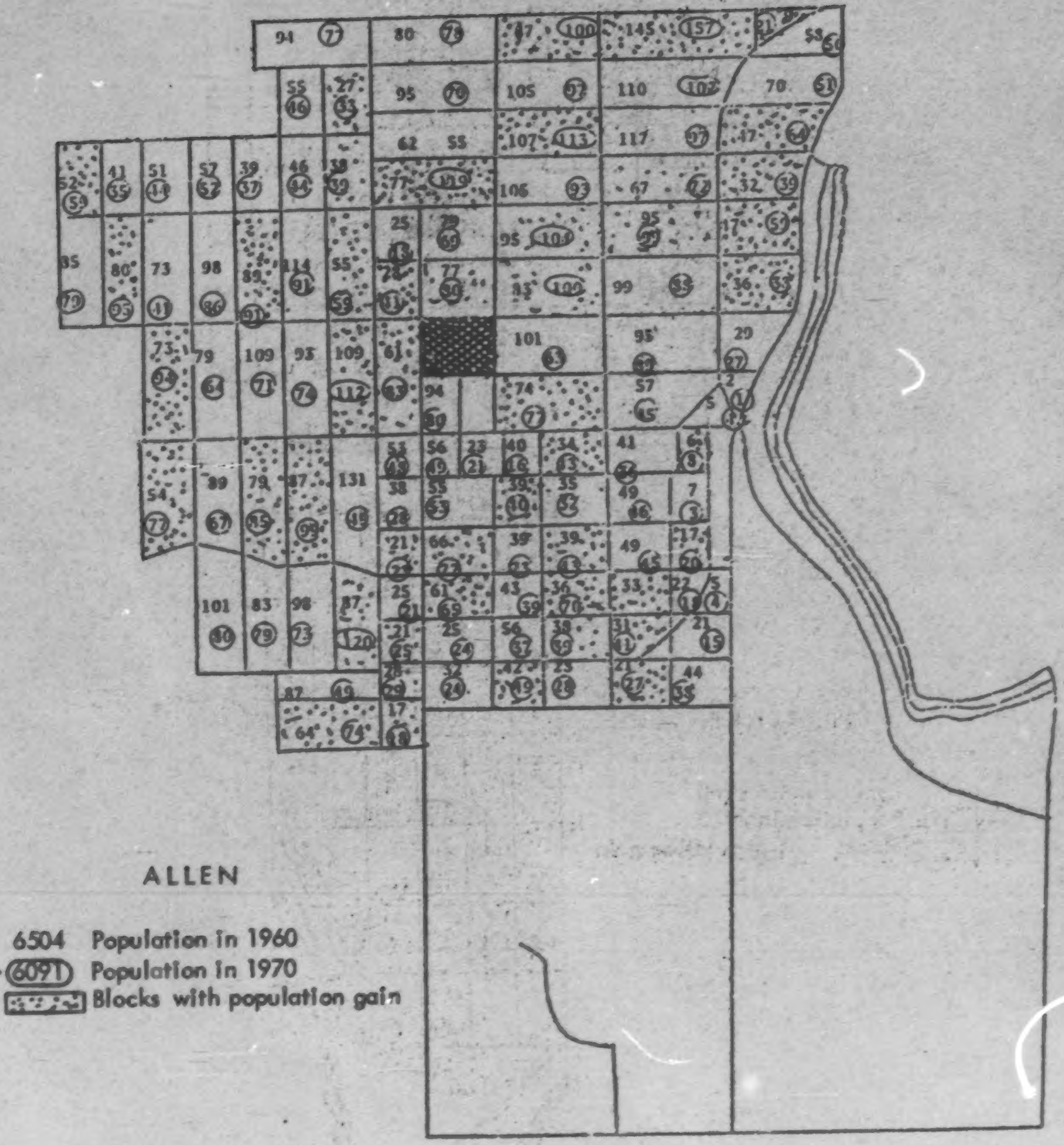
Characteristic	1960	1970	1960-1970 Change Amount	Per Cent	1974	1970-1974 Change Amount	Per Cent
POPULATION	4960	4680	-280	-6	4300	-380	8
% White	85	65	-20				
% Black	2	13	11				
% Other	13	22	9				
AGE							
% Under 18	34	31	-3		30	-1	
# Under 5	546	337	-209	-38	280	-57	-17
# 5 - 17	1190	1100	-90	-8	1010	-90	-8
% 18 - 64	55	58	4				
% Over 65	9.5	10.5	1		25		
HOUSEHOLDS #	1550	1560			1514		
# Families	1348	1279	-69	-5	1226	-53	-4
# 1-person HH	202	281	79	39	288	+7	3
% of Households	13	18	5		19	1	
# Female Head		86			91	5	-6
% of Families		6.7			7.4	.5	
Popul/Household	3.2	3.0	-.2	-6	2.85	-.15	-5
Median Income	$6810	11300	4490	66	11700	400	4
% in Poverty	11	6	-5				
MOBILITY, EMPLOYMENT							
% in Same House	54	61	7		70		
"Mobility Rate"					35		
% Unemployed (Male)	4.5	7.0	2.5	56	12.2	5.2	74
# Prof/Tech and Mgr.							
% Prof/Tech and Mgr.	15	17	+2		24	7	
HOUSING							
Residential Units	1600	1630	30	2	1535	5	
Vacant Units	50	68	18	31	120	52	77
% Vacant	3.2	4.2	1		7.3	3.1	
Owner-occupied	1255	1248	-7	-6	1226	-22	-2
% Owner	81	80	-1		81	1	
Renter	295	312	17	6	288	-24	-8
Median Rent	90	112	22	24			
% New Units	29	12			2(1yr.)		
Commercial Firms					150		
% Comm. Vacant					9		

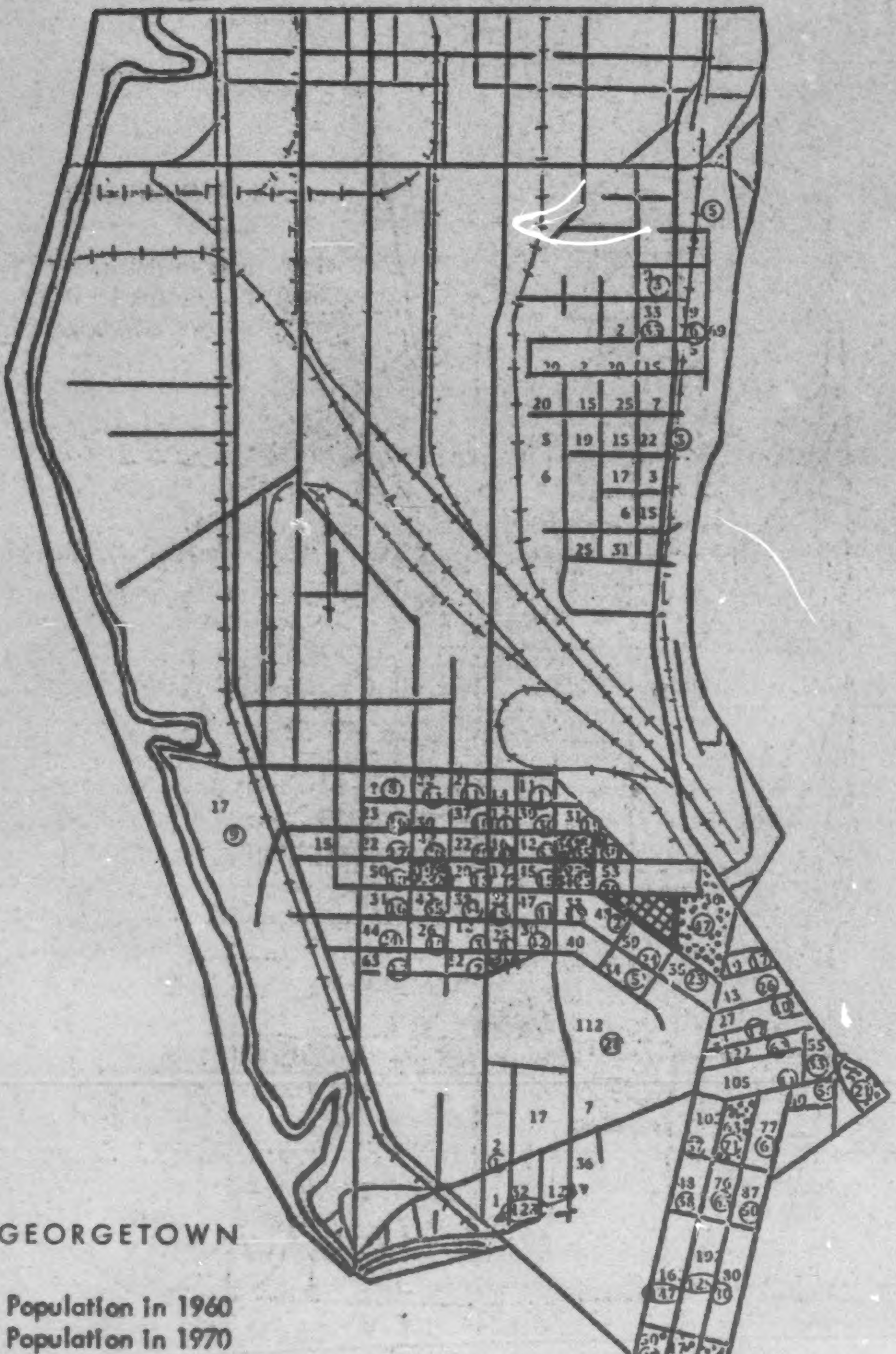
School Age Population (ages 6-12): 1960 - 540
1970 - 375
1974 - 300

Attachment 2C

POPULATION CHANGES BY BLOCK IN SELECTED SCHOOL AREAS

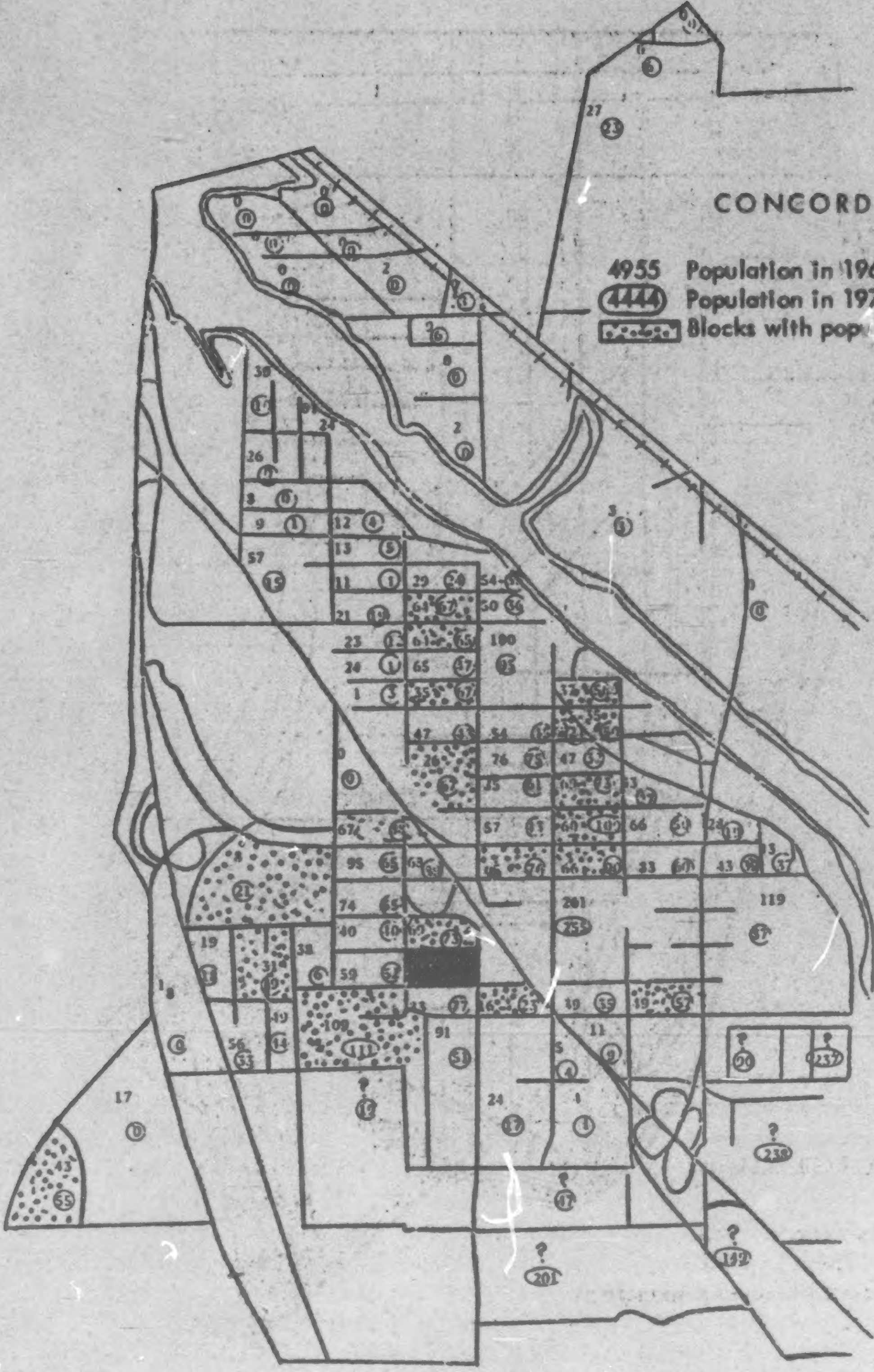

INTERLAKE
6770 Population in 1960
6289 Population in 1970
Blocks with population gain

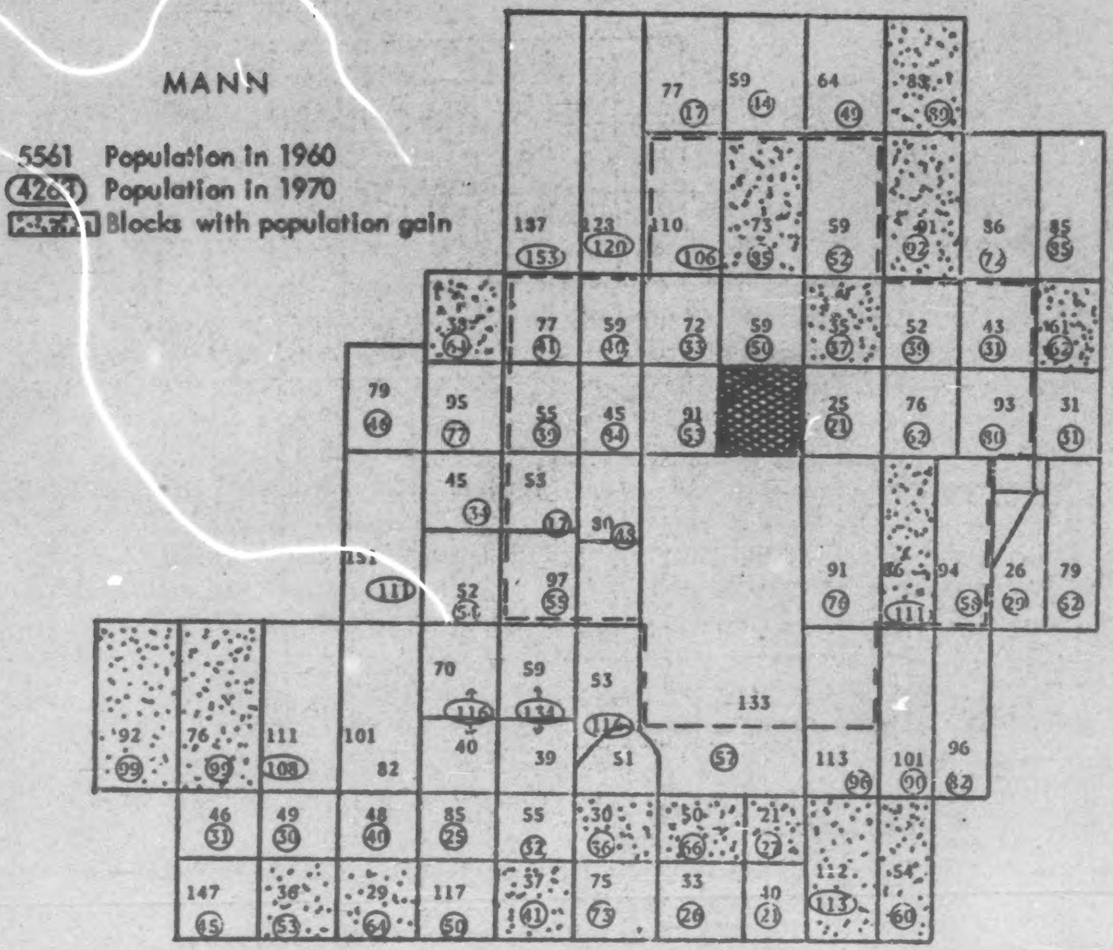

ALLEN
6504 Population in 1960
6091 Population in 1970
Blocks with population gain



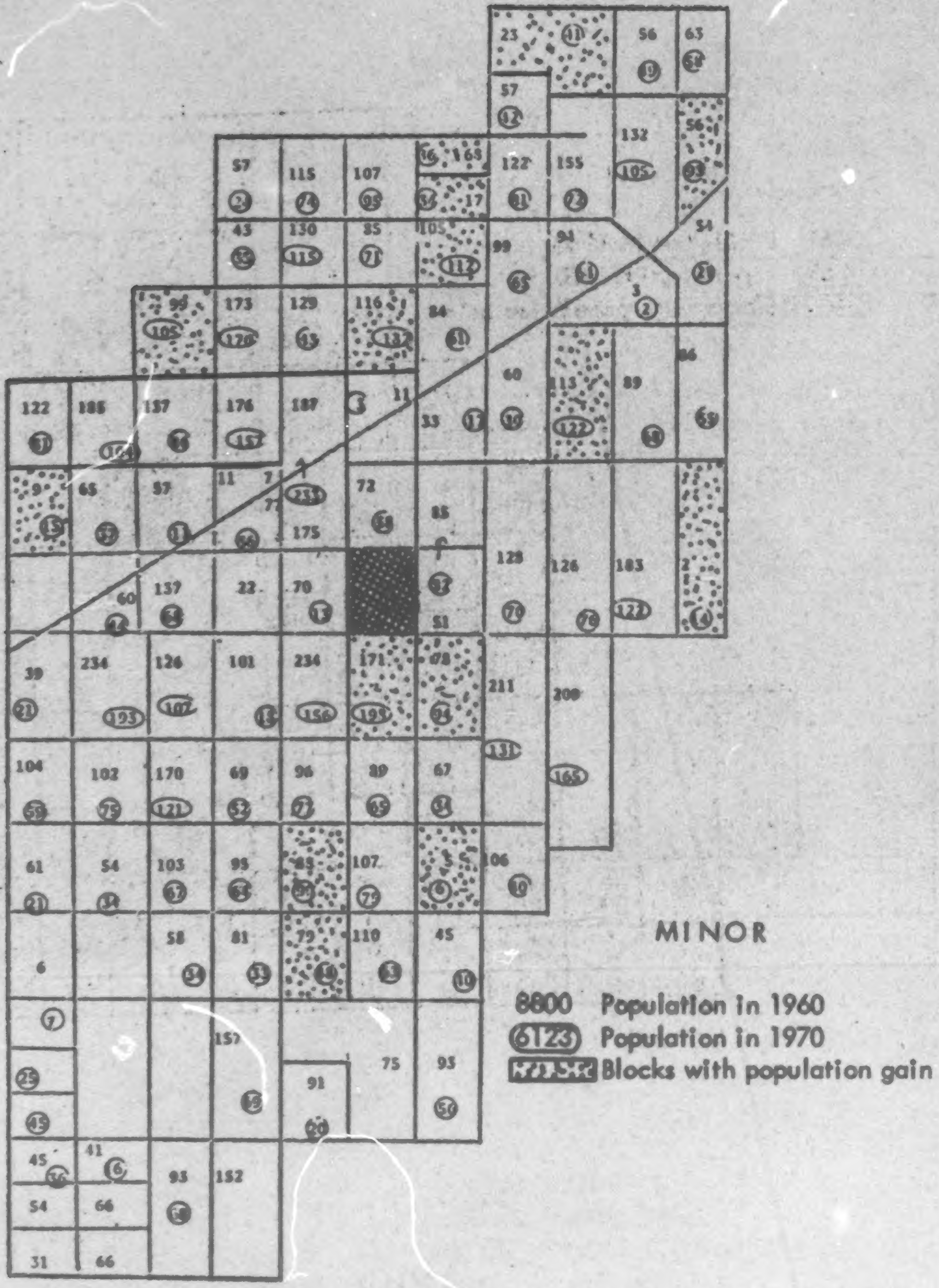
GEORGETOWN

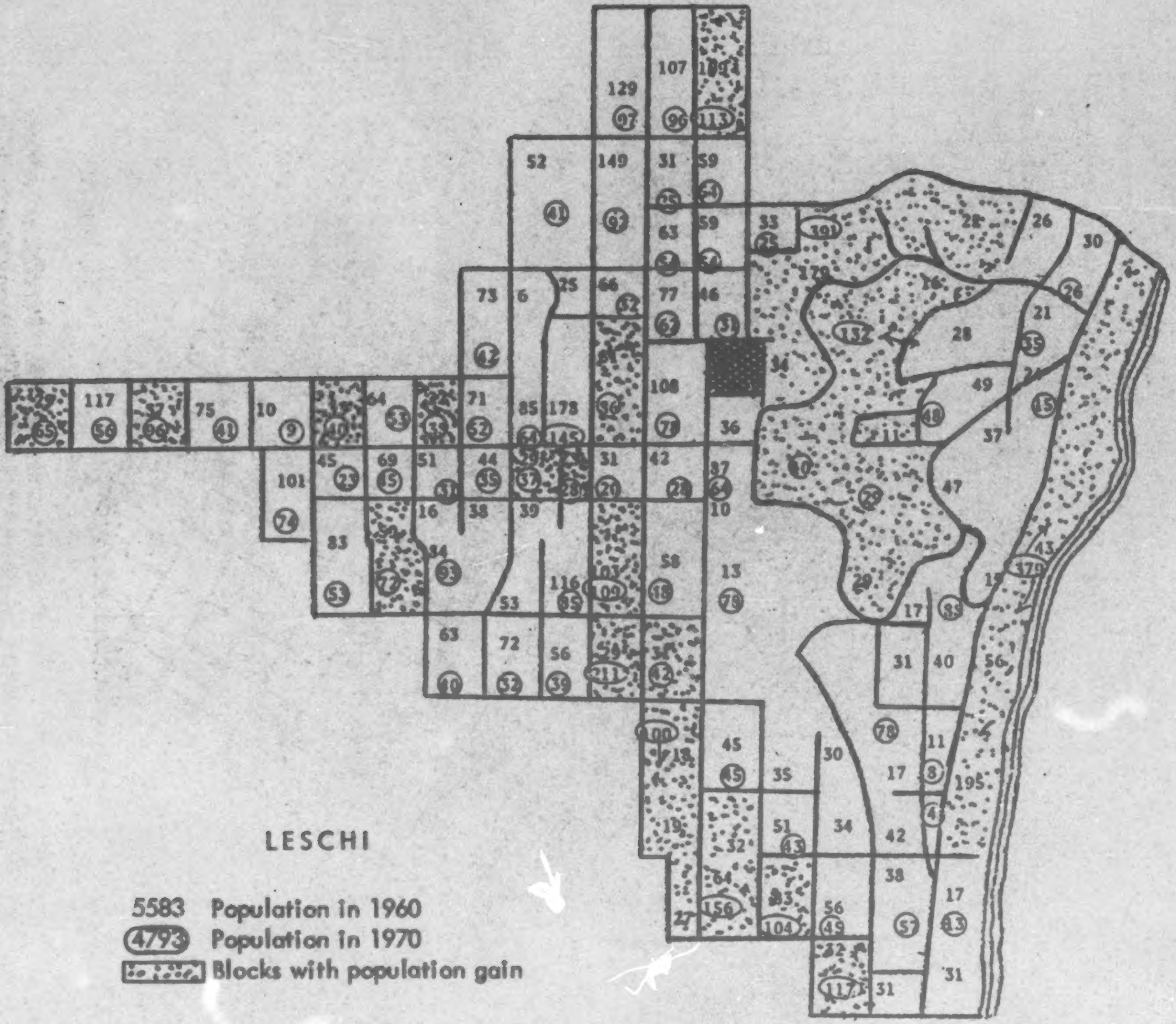
3813 Population in 1960
(2100) Population in 1970
▨ Blocks with population gain


CONCORD
4955 Population in 1960
4444 Population in 1970
Blocks with population gain

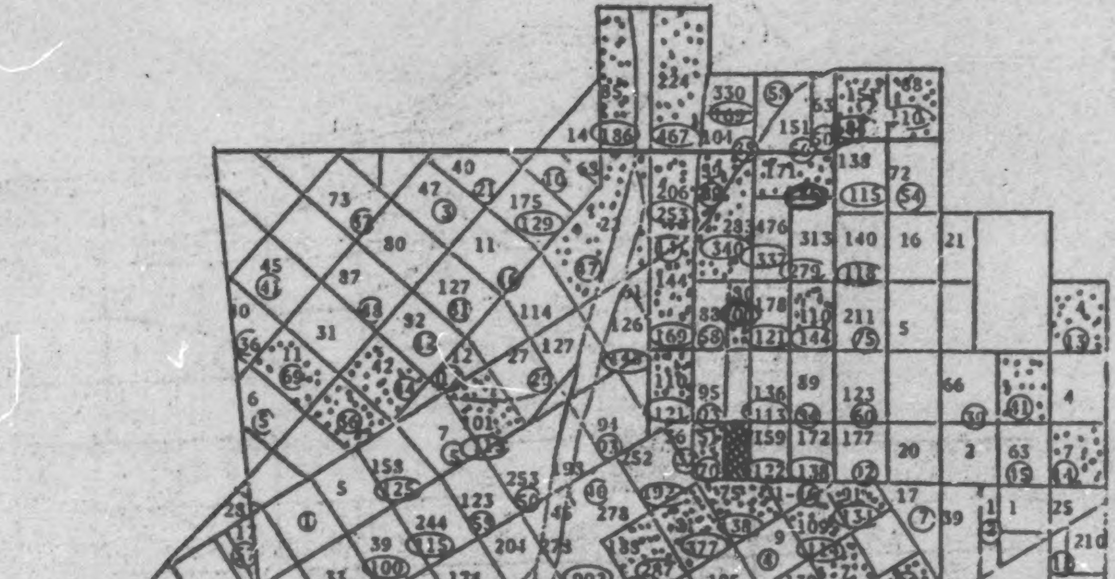

MANN
5561 Population in 1960
4263 Population in 1970
Blocks with population gain
77 17
59 14
64 49
83 89
137 153
123 120
110 106
73 85
59 52
91 92
86 74
85 85
38 64
77 41
59 40
72 53
59 50
35 57
52 39
43 31
61 62
79 46
95 77
55 39
45 34
91 53
25 21
76 62
93 80
31 31
45 34
53 17
30 43
151 111
52 54
97 55
91 76
86 111
94 58
26 29
79 62
92 99
76 99
111 108
101 82
70 116
40
59 134
39
53 116
51
133 57
113 96
101 90
96 82
46 31
49 30
48 40
85 25
55 32
30 36
50 66
21 27
147 45
36 53
29 64
117 50
37 41
75 73
33 26
40 21
112 113
54 60

2C-6


MINOR
8800 Population in 1960
6123 Population in 1970
Blocks with population gain


LESCHI
5583 Population in 1960
4793 Population in 1970
Blocks with population gain

2C-7



SUMMIT

23,750 Population in 1960

(17,205) Population in 1970

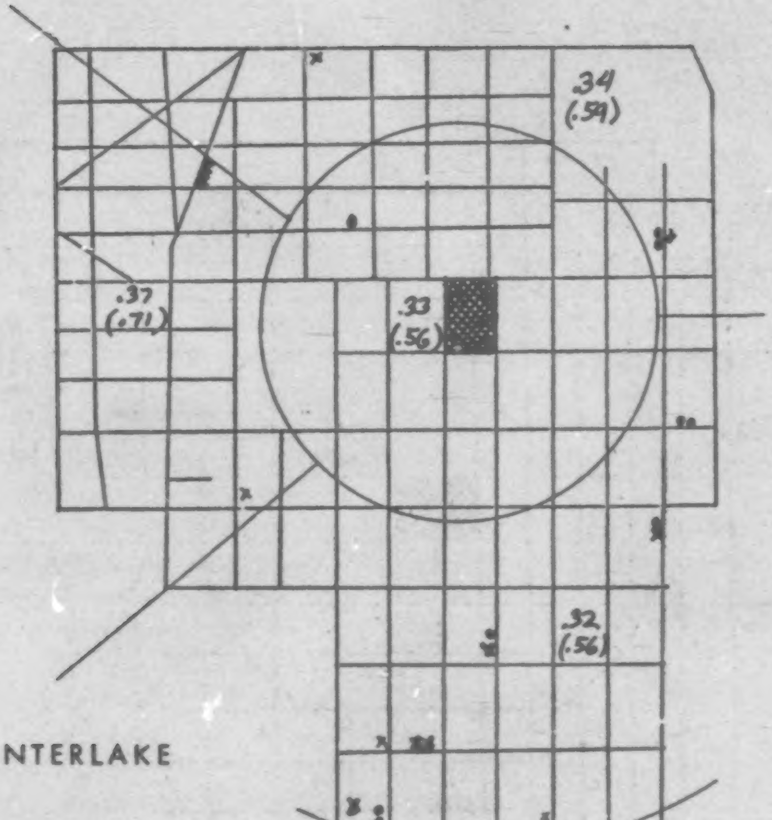
▨ Blocks with population gain

Attachment 2D

DEMOLITION AND NEW CONSTRUCTION PLOTS
1972, 1973, 1974

and

RESIDENTIAL AND COMMERCIAL OCCUPANCY CHANGE PLOTS
1969-71 and 1971-75


.34
(.59)
.37
(.71)
.33
(.56)
.32
(.56)
.42
(.70)

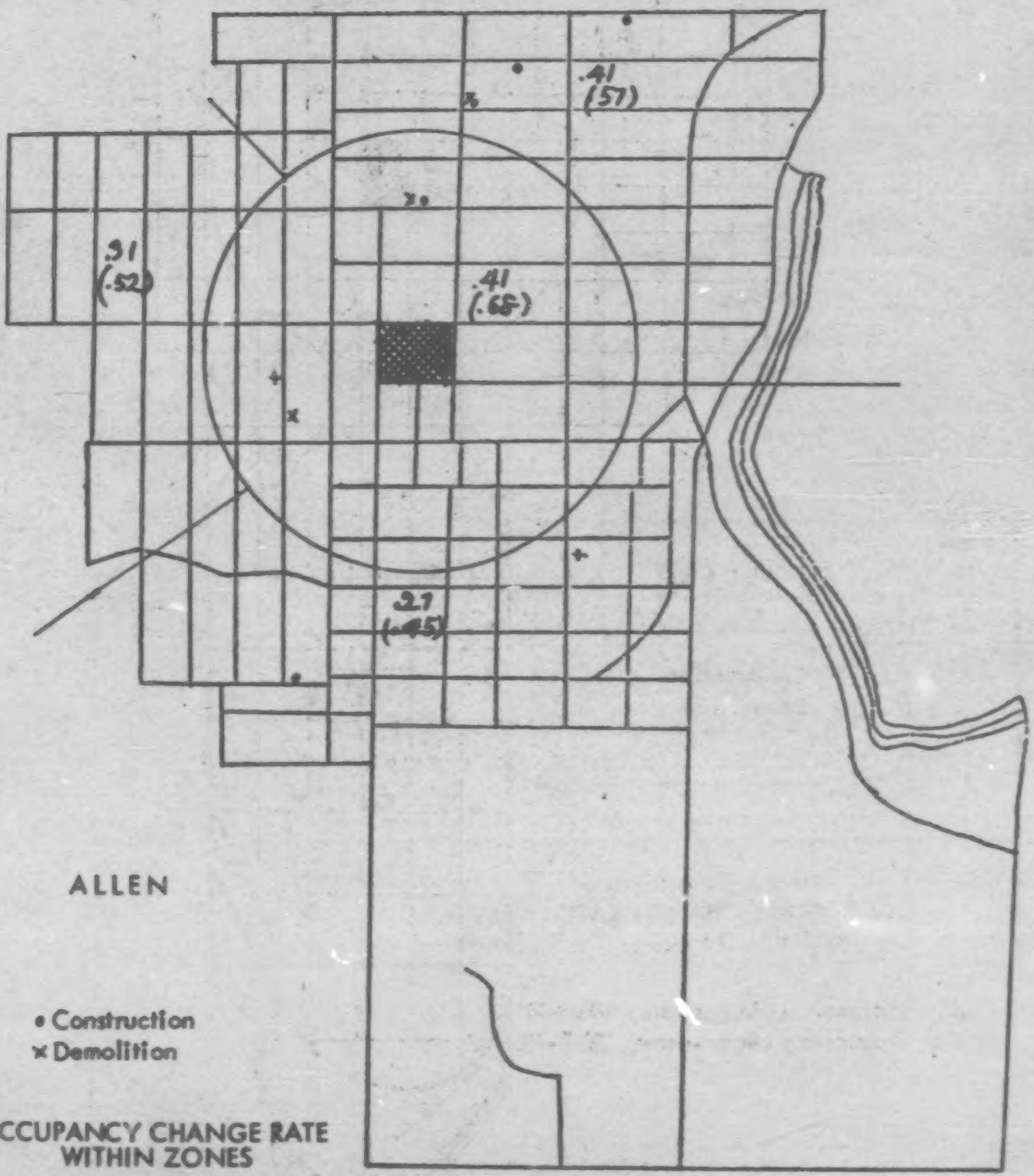
INTERLAKE

- ● Construction
- X Demolition

OCCUPANCY CHANGE RATE
WITHIN ZONES

.36 Occupancy change rate, 1969-71
(.61) Occupancy change rate, 1971-75

2D-2

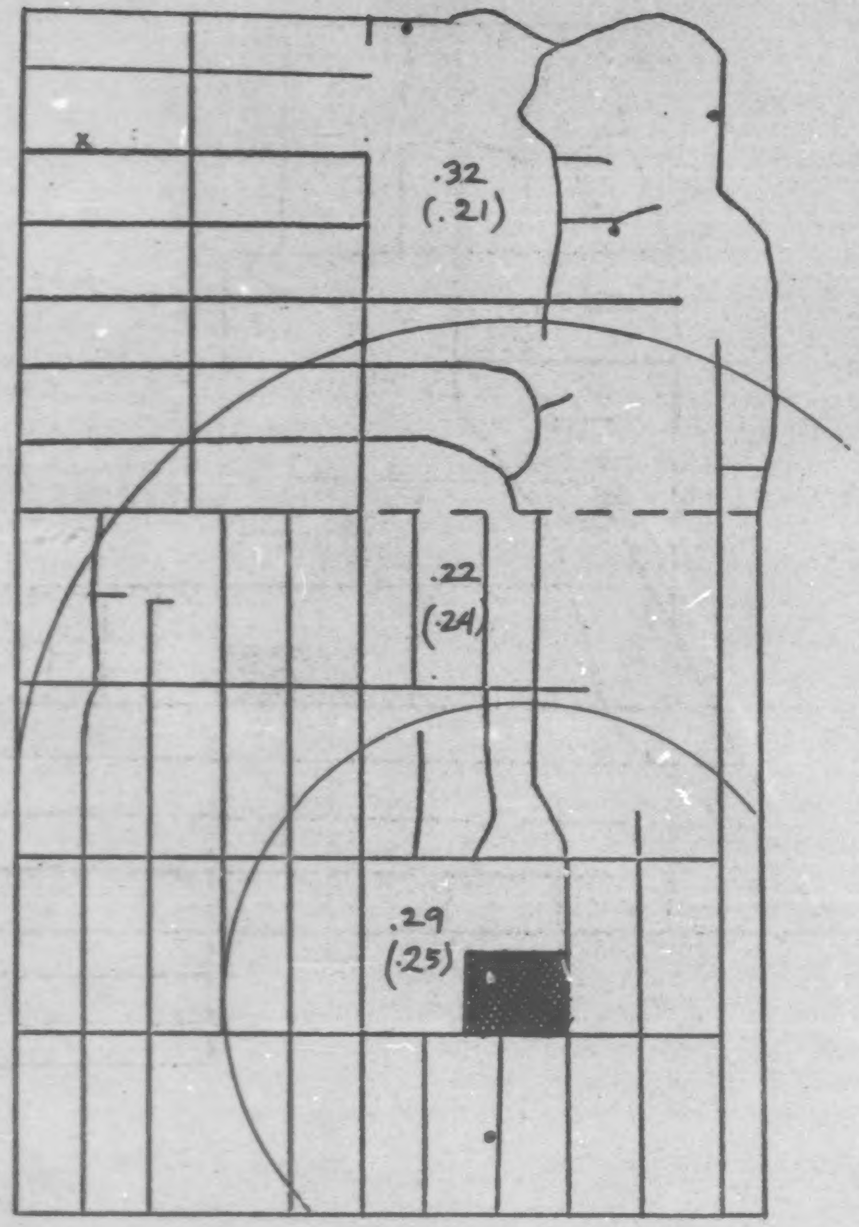

.41
(57)
.31
(.52)
.41
(.68)
.27
(.45)
ALLEN

• Construction
× Demolition

OCCUPANCY CHANGE RATE WITHIN ZONES

.36 Occupancy change rate, 1969–71
(.57) Occupancy change rate, 1971–75

DECATUR



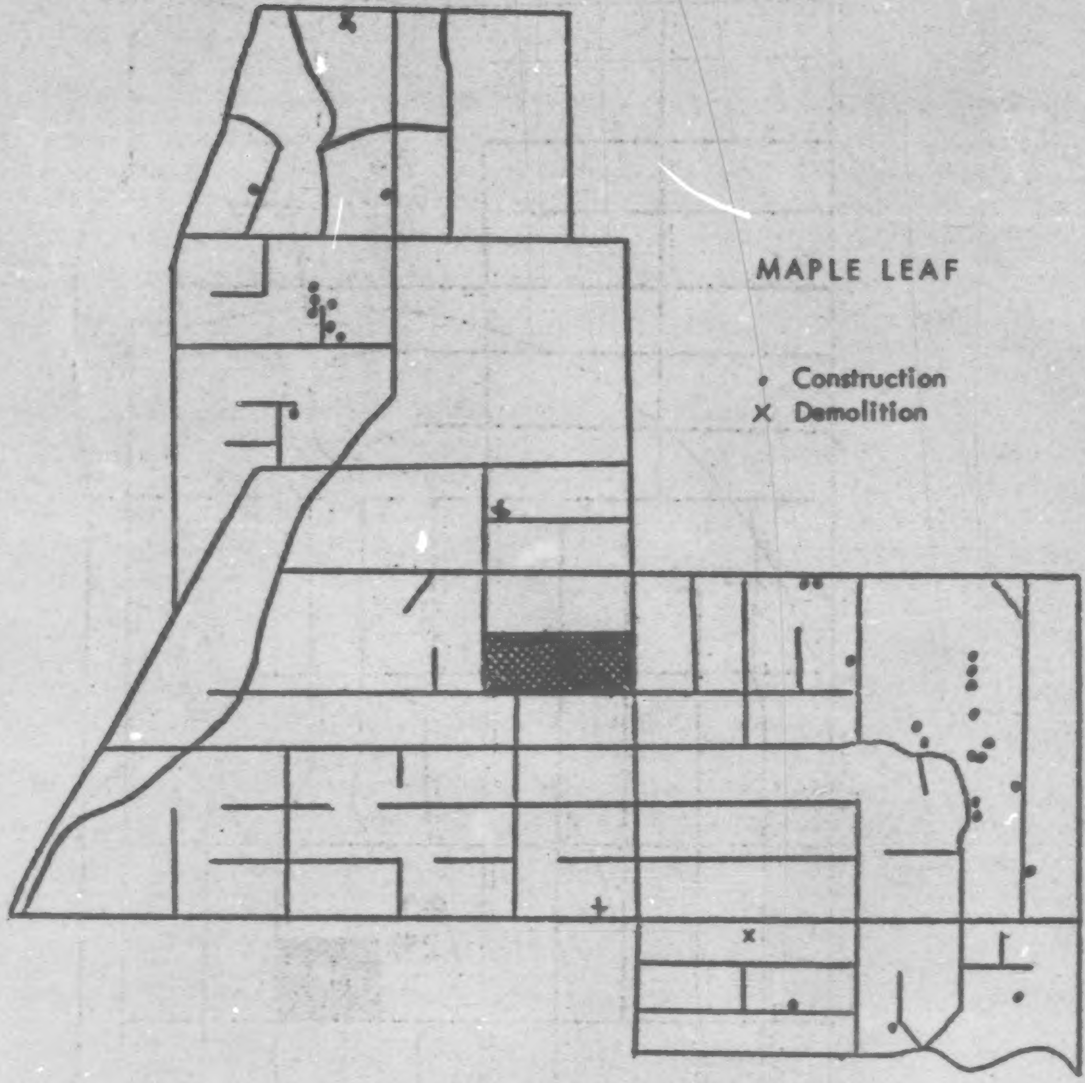
- Construction

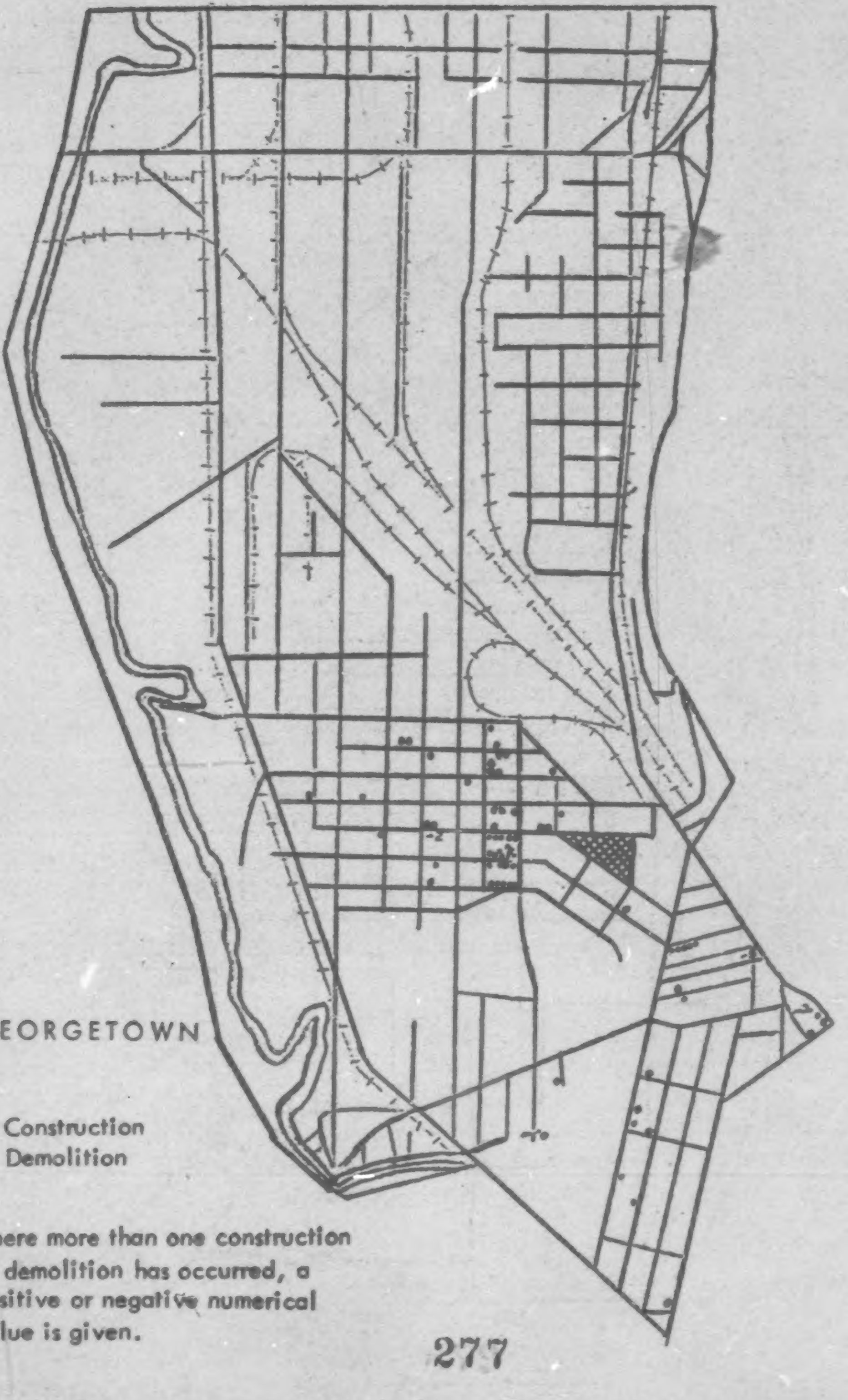
X Demolition

OCCUPANCY CHANGE RATE
WITHIN ZONES

.26 Occupancy change rate, 1969-71
(.23) Occupancy change rate, 1973-75

2D-4


MAPLE LEAF
• Construction
X Demolition

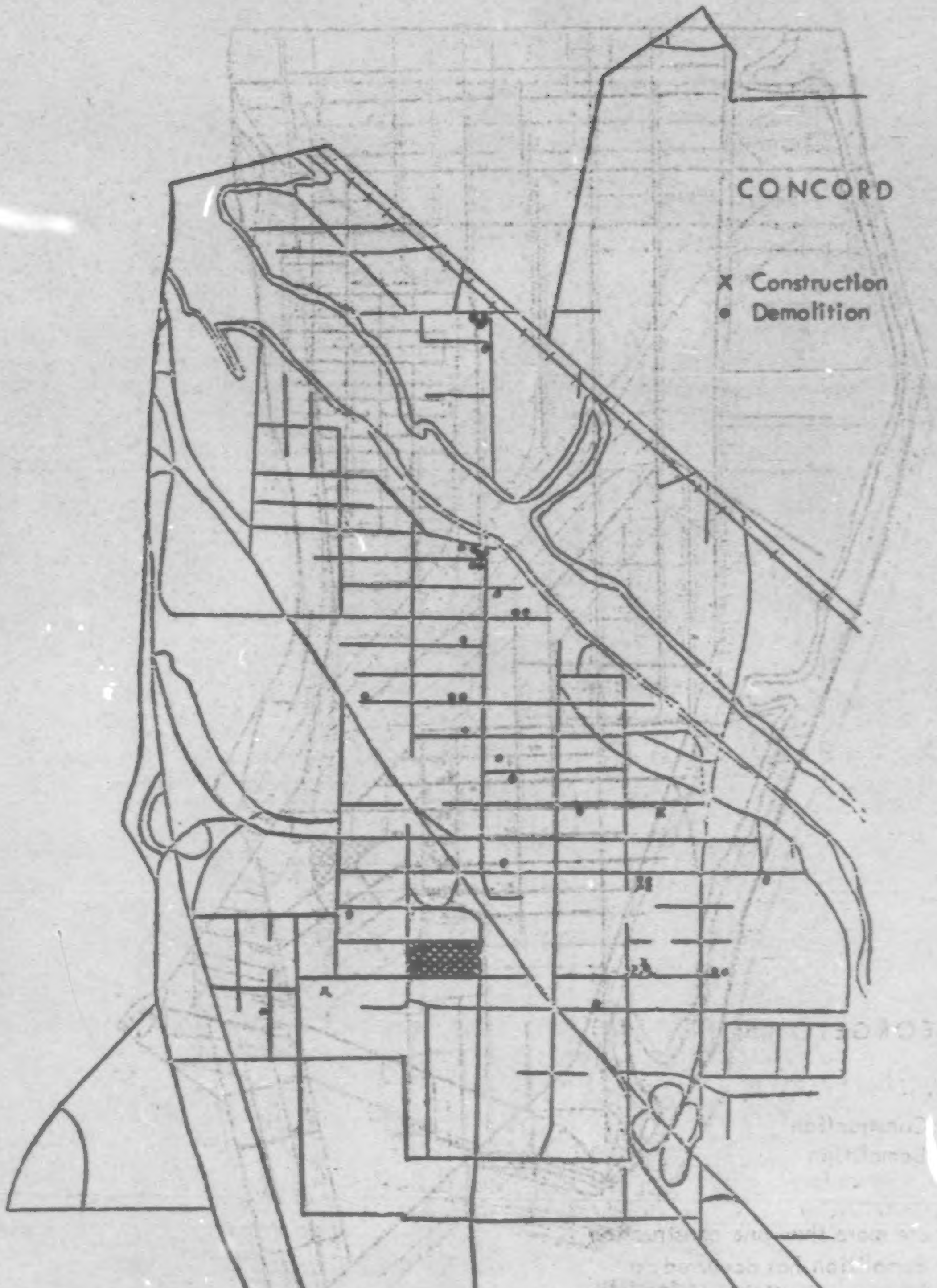


GEORGETOWN

X Construction
• Demolition

Where more than one construction or demolition has occurred, a positive or negative numerical value is given.

2D-6


CONCORD
X Construction
● Demolition

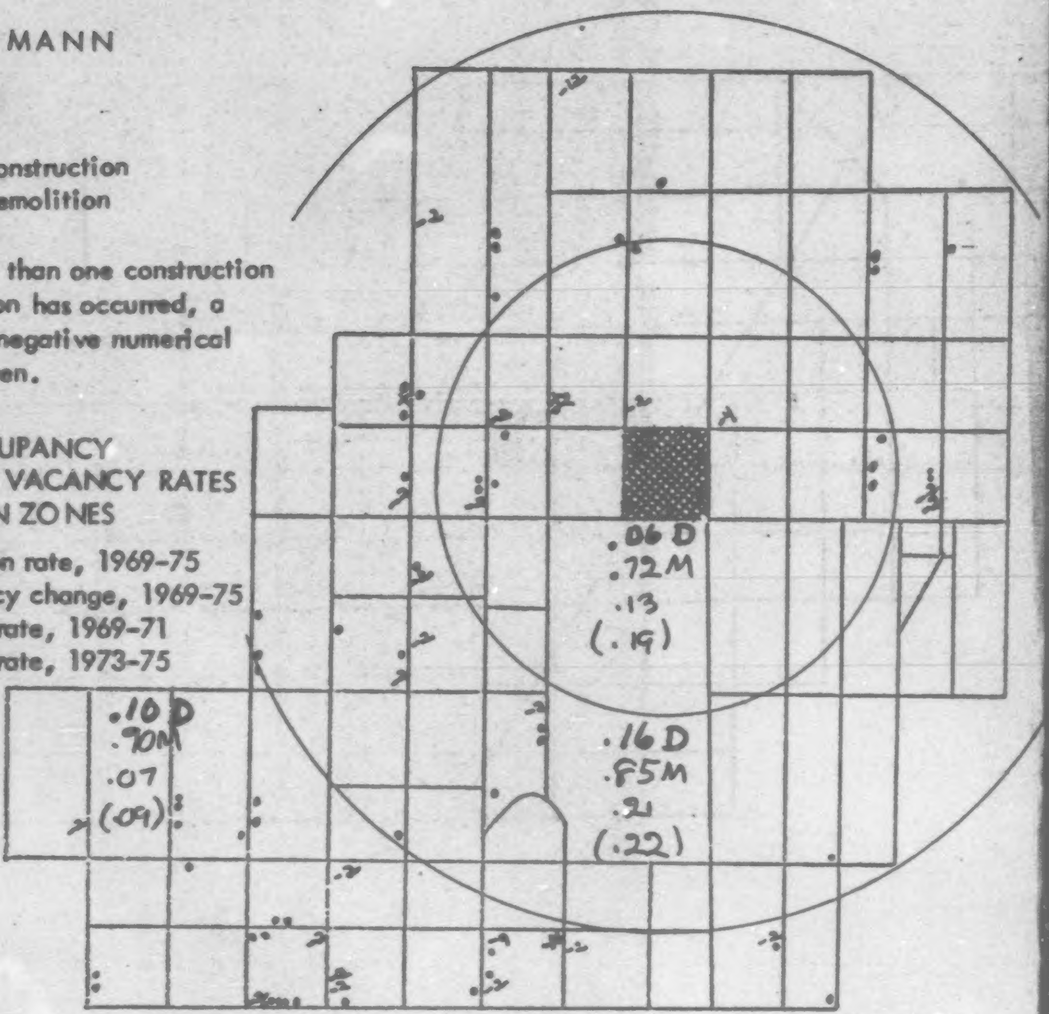
MANN

X Construction
• Demolition

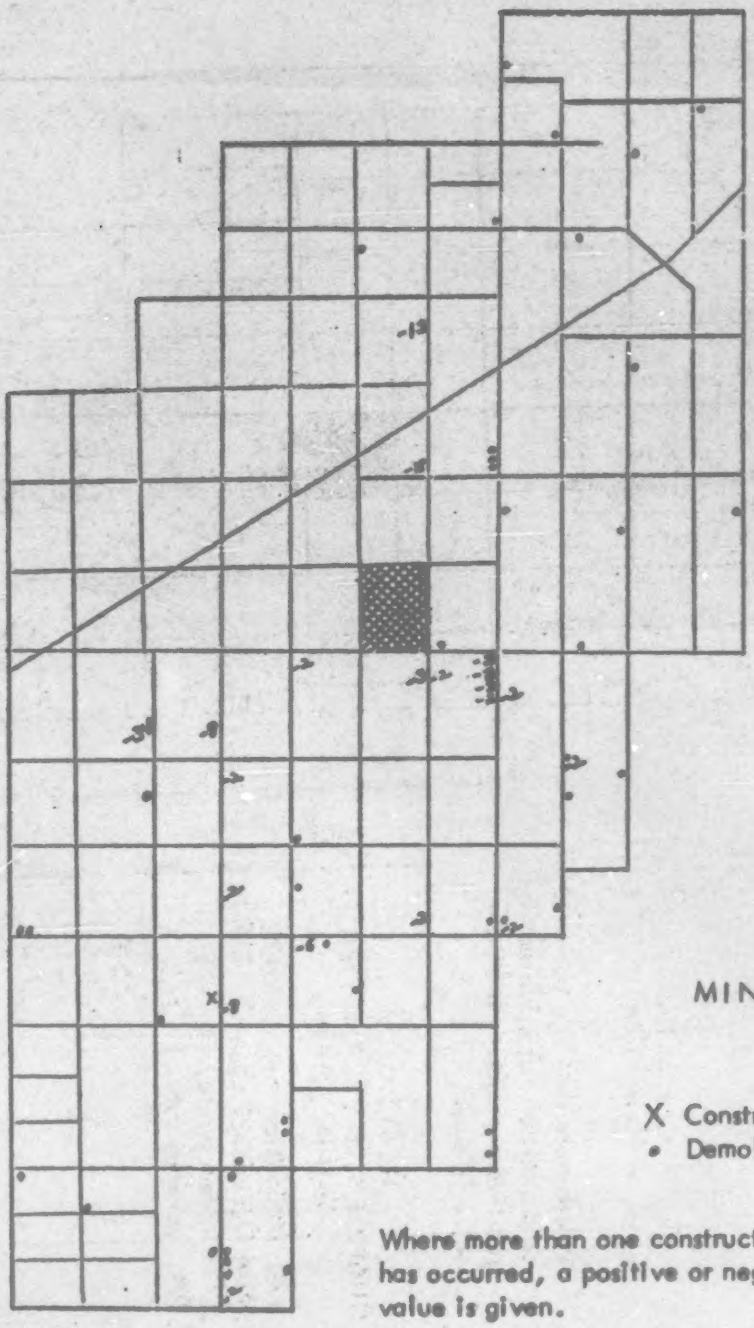
Where more than one construction or demolition has occurred, a positive or negative numerical value is given.

OCCUPANCY CHANGE AND VACANCY RATES WITHIN ZONES

.12D	Demolition rate, 1969-75
.82M	Occupancy change, 1969-75
.17	Vacancy rate, 1969-71
(.19)	Vacancy rate, 1973-75


A
.06 D
.72 M
.13
(.19)
.10 D
.90M
.07
(.09)
.16 D
.85M
.21
(.22)

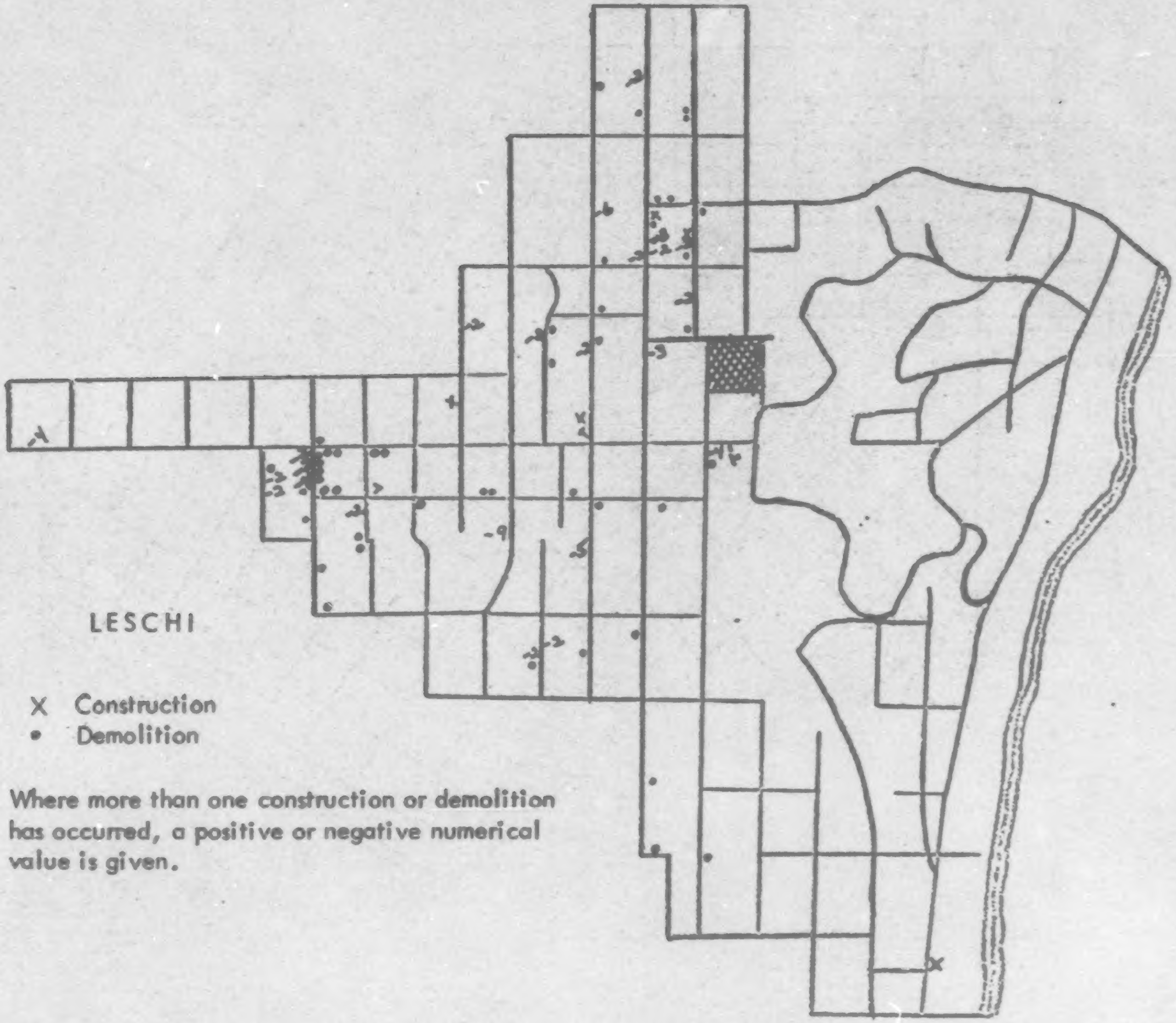
2D-8



MINOR

X Construction
• Demolition

Where more than one construction or demolition has occurred, a positive or negative numerical value is given.

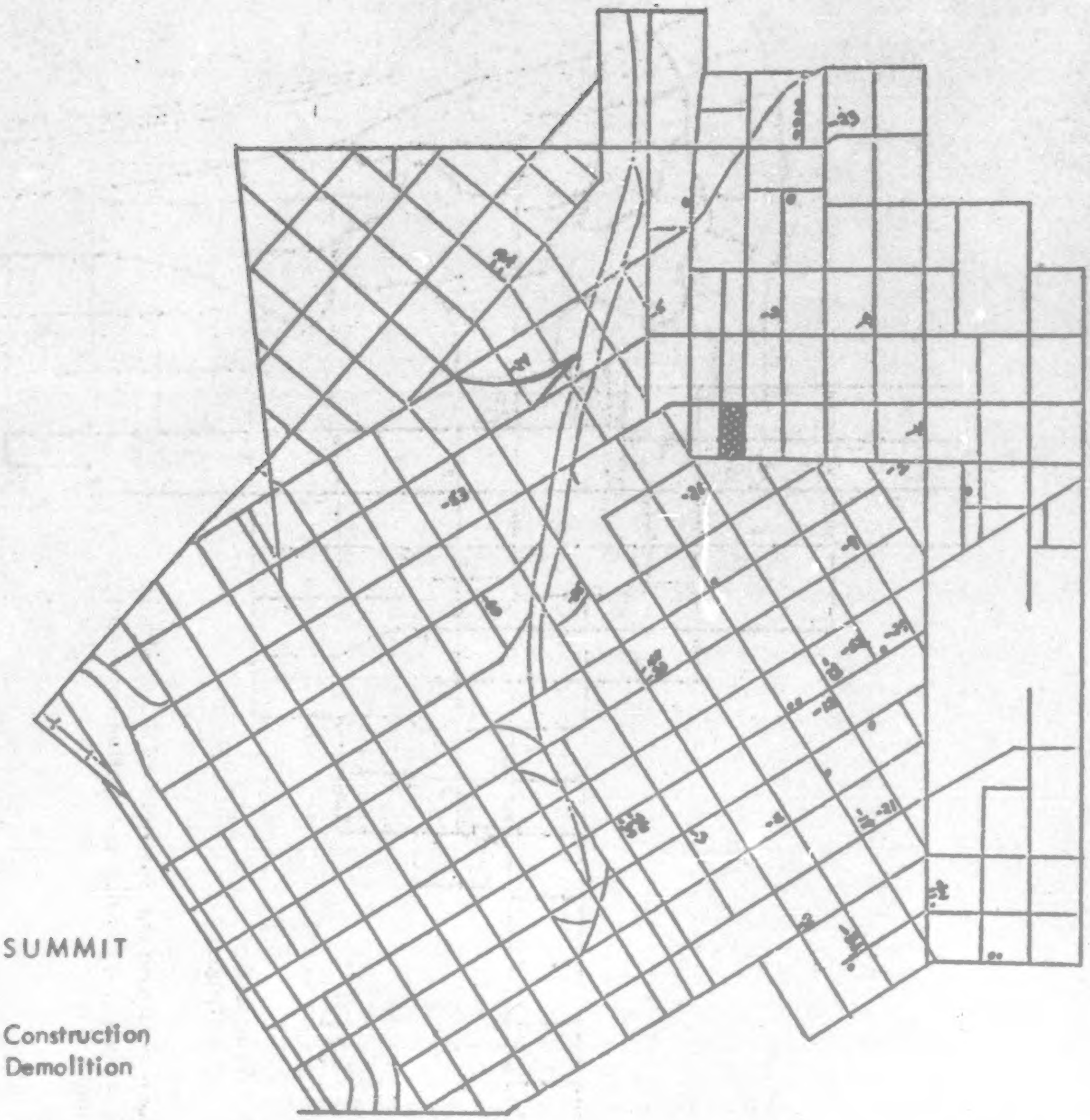


LESCHI

X Construction
• Demolition

Where more than one construction or demolition has occurred, a positive or negative numerical value is given.

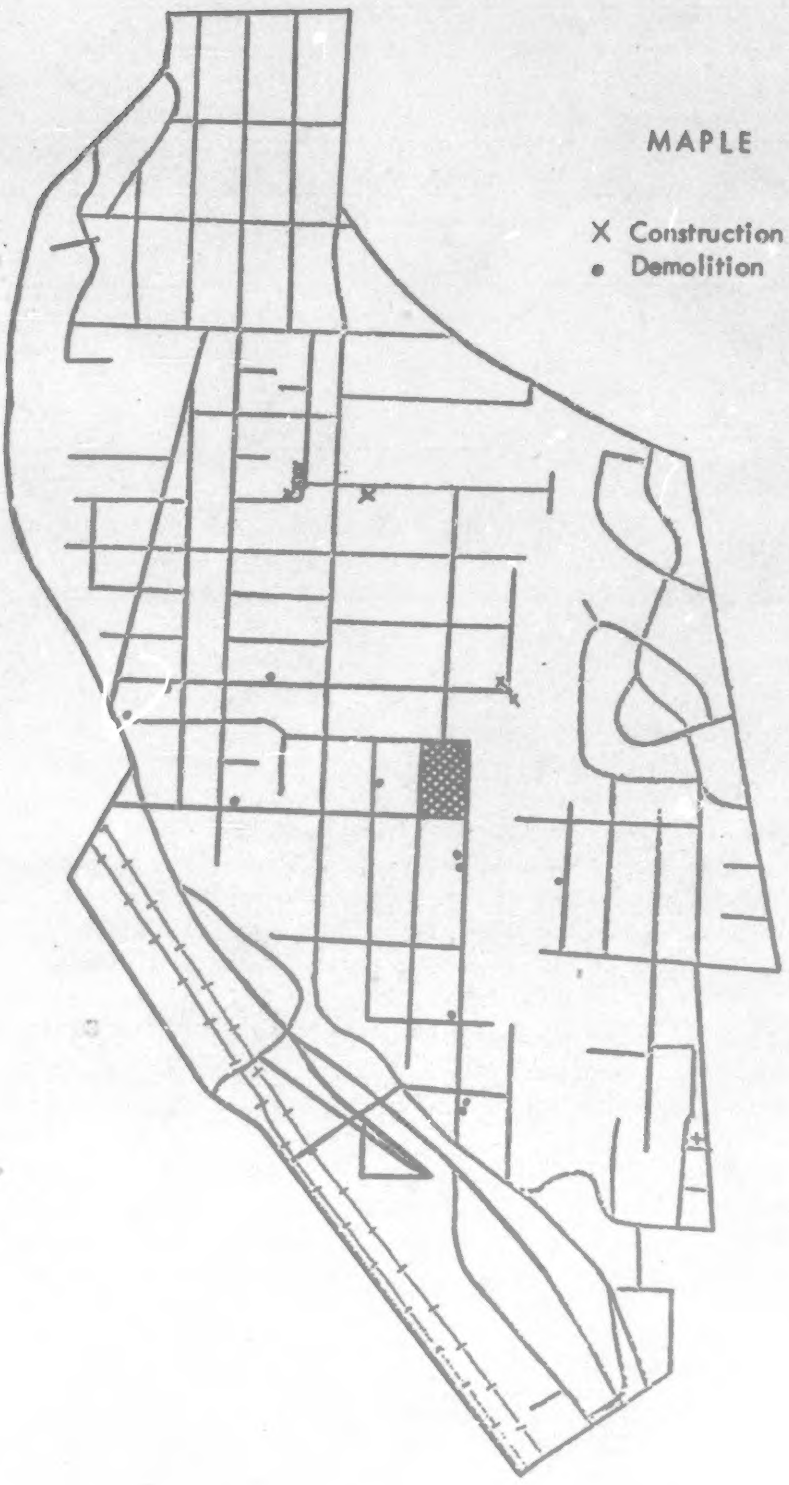
2D-9



SUMMIT

X Construction
• Demolition

Where more than one construction or demolition has occurred, a positive or negative numerical value is given.

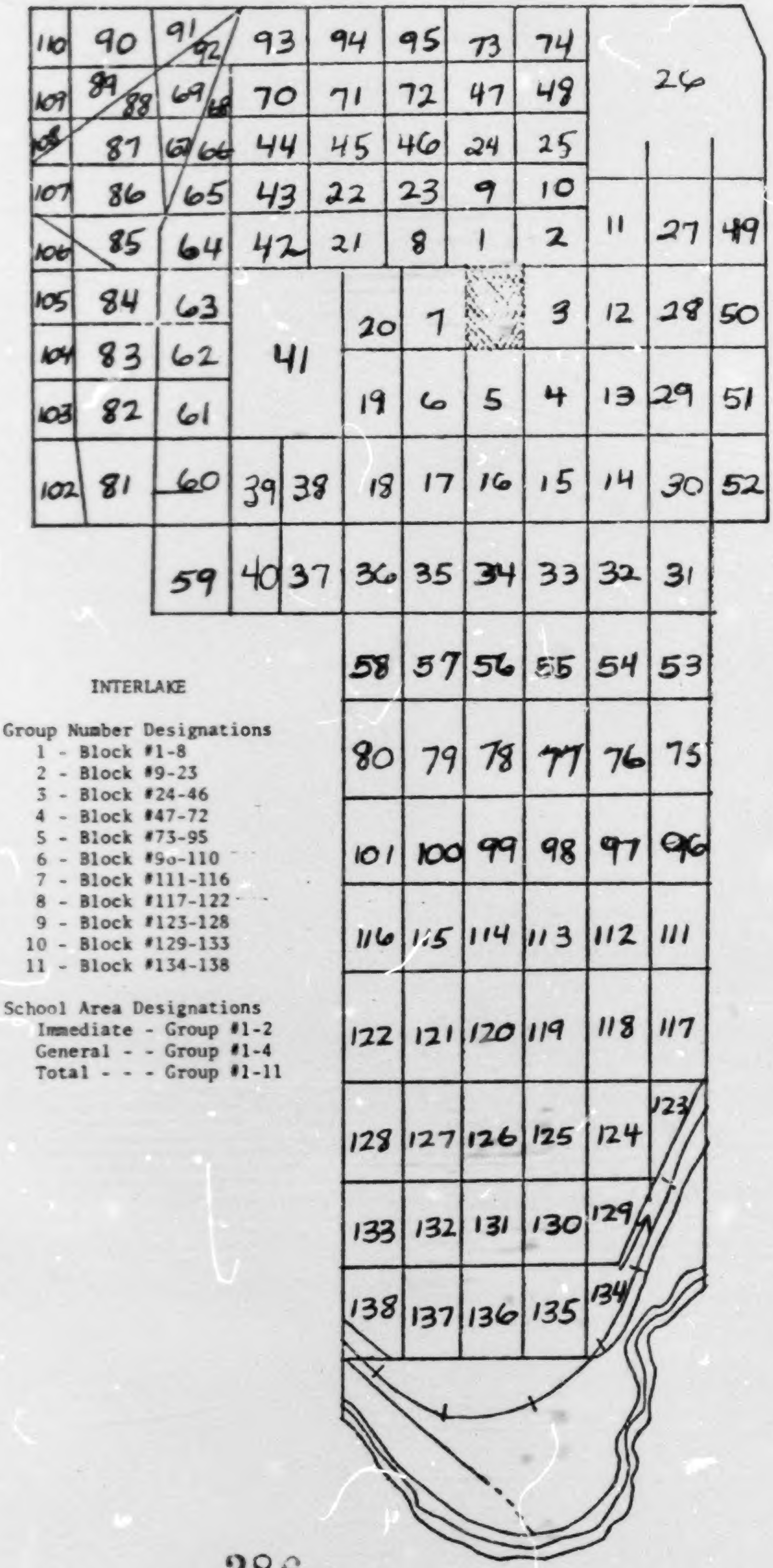

MAPLE
X Construction
• Demolition

Attachment 3A

DETAILED MOBILITY DATA AND MAPS ON INTERLAKE-ALLEN

Attachment 3A

DETAILED MOBILITY DATA AND MAPS ON INTERLAKE-ALLEN


110 90 91 92 93 94 95 73 74 26
109 89 88 69 68 70 71 72 47 48
108 87 67 66 44 45 46 24 25
107 86 65 43 22 23 9 10
106 85 64 42 21 8 1 2 11 27 49
105 84 63 20 7 3 12 28 50
104 83 62 41
103 82 61 19 6 5 4 13 29 51
102 81 60 39 38 18 17 16 15 14 30 52
59 40 37 36 35 34 33 32 31
58 57 56 55 54 53
80 79 78 77 76 75
101 100 99 98 97 96
116 115 114 113 112 111
122 121 120 119 118 117
128 127 126 125 124 123
133 132 131 130 129
138 137 136 135 134

INTERLAKE

Group Number Designations
1 - Block #1-8
2 - Block #9-23
3 - Block #24-46
4 - Block #47-72
5 - Block #73-95
6 - Block #96-110
7 - Block #111-116
8 - Block #117-122
9 - Block #123-128
10 - Block #129-133
11 - Block #134-138

School Area Designations
Immediate - Group #1-2
General - - Group #1-4
Total - - - Group #1-11

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Interlake
Student Group 3rd Grade (1970-71)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	3	2		1					2		1					2		1				
2	15	13	2		3			7	11		1	5		1	6	10		2	5		1	6
3	11	7	1	1			2	2	4	1		4		2	6	4	1		4		2	6
4	10	8			2			2	5			4		1	5	4	1		3		2	5
5	11	9		2					6		2	3			3	3		3	4		1	5
6	3	3							1		1	1			1	1		1	1			1
7	2				2			2				2			2				2			2
8	2	2							2							1		1				
9	5	4			1			1	3			2			2	1	1		3			3
10	1	1							1							1						
11																						
12	5	4		1					4		1					3		1	1			1
Total	71	53	3	5	8		2	10	39	1	6	21		4	25	30	3	9	23		6	29

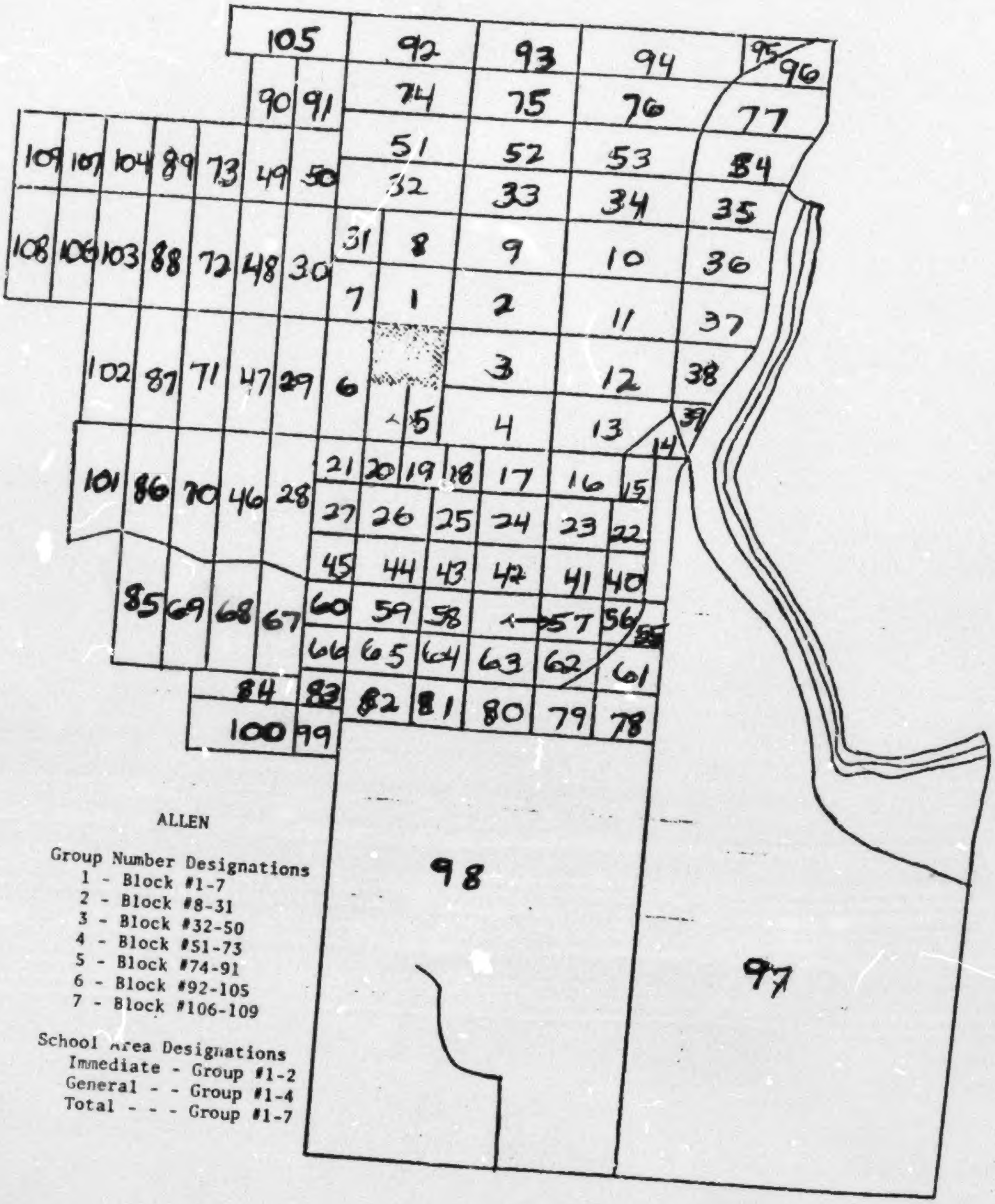
3A-2

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Interlake
Student Group 4th Grade (1970-71)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	3	2			1			1	2			1			1	2			1			1
2	9	6	2		1			1	6	1		2			2	6	1		2			2
3	13	12					1	1	8		1	1		3	4	8		1	1		3	4
4	6	5			1			1	2	1		2		1	3	2	1		2		1	3
5	6	4	1	1					3	2	1					3	2	1				
6	6	5			1			1	4			1		1	2	3			1		2	3
7	2	2							2							2						
8	4	4							4							3		1				
9	5	5							5							3	1		1			1
10	--																					
11	--																					
12	5	4			1			1	4		1					4		1				
Total	59	49	3	1	5		1	6	40	4	3	7		5	12	36	5	4	8		6	14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ALLEN

Group Number Designations
1 - Block #1-7
2 - Block #8-31
3 - Block #32-50
4 - Block #51-73
5 - Block #74-91
6 - Block #92-105
7 - Block #106-109

School Area Designations
Immediate - Group #1-2
General - - Group #1-4
Total - - - Group #1-7

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Allen
Student Group 3rd Grade (1970-71)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	2		1		1			1		1		1			1		1		1			1
2	6	6							5			1			1	4			2			2
3	9	5		1	3			3	4	1	1	3			3	3	1	1	4			4
4	18	15		1	2			2	12		3	2		1	3	8		4	5		1	6
5	16	13	1		2			2	10	1	2	2	1		3	8	1		5	1	1	7
6	13	11			2			2	7	1	2	3			3	7	1	2	3			3
7	9	8			1			1	6			3			3	5			4			4
Total	73	55	2	2	11			11	44	4	8	15	1	1	17	35	4	7	24	1	2	27

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Allen
Student Group 4th Grade (1970-71)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	5	4					1	1	3					2	2	3					2	2
2	17	14			3			3	8	1	1	6	1		7	6		3	5		3	8
3	14	5		2	7			7	5		2	7			7	4		2	8			8
4	15	12	1	1			1	1	9	1	3	1		1	2	8	1	2	3		1	4
5	9	5		1	2		1	3	5		1	2		1	3	5			3		1	4
6	6	3		1	2			2	1		1	3		1	4	1			4		1	5
7	7	4	1	1	1			1	4	1	1	1			1	4	1	1	1			1
Total	73	47	2	6	15		3	18	35	3	9	20	1	5	26	31	2	8	24		8	32

3A-6

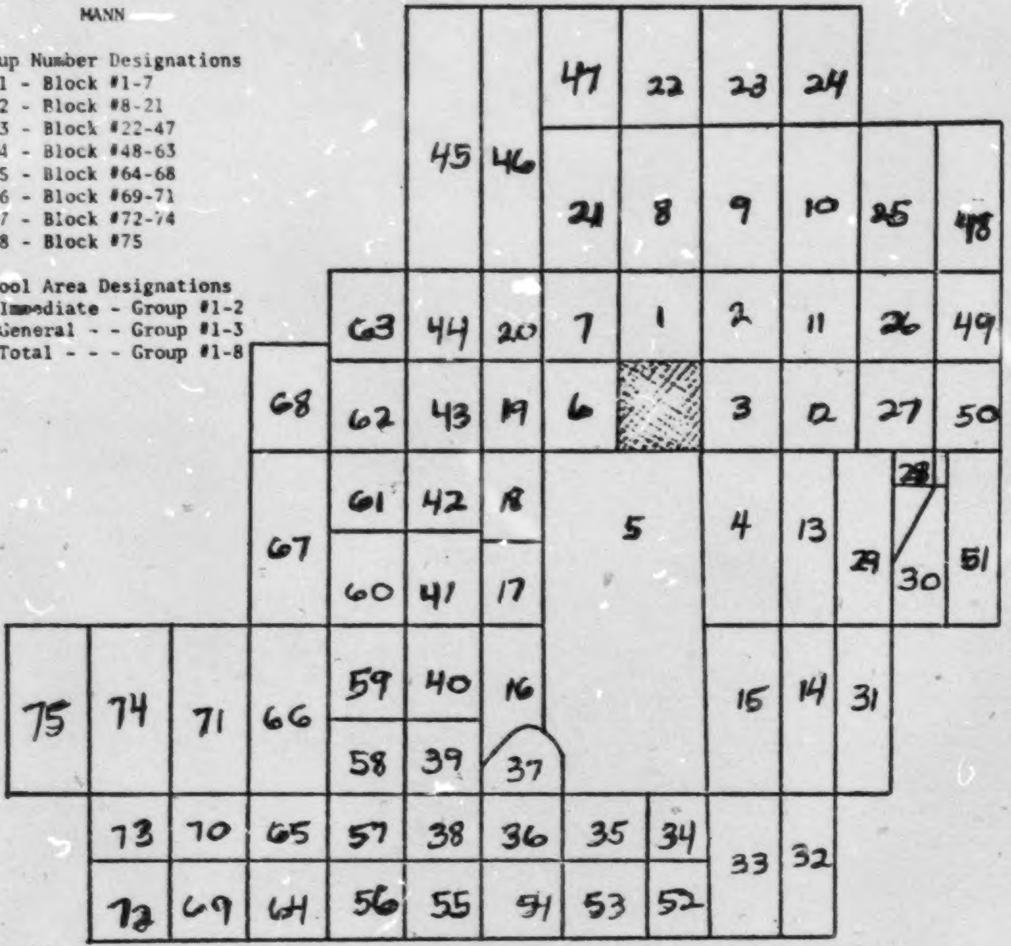
Attachment 3B

DETAILED MOBILITY DATA AND MAPS ON MANN-MINOR-LESCHI

MANN

Group Number Designations
1 - Block #1-7
2 - Block #8-21
3 - Block #22-47
4 - Block #48-63
5 - Block #64-68
6 - Block #69-71
7 - Block #72-74
8 - Block #75

School Area Designations
Immediate - Group #1-2
General - - Group #1-3
Total - - - Group #1-8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3B-1

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Mann
Student Group 2nd Grade (1967-68)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	2	2							2							1		1				
2	16	14						2	13		2				1	11		4				1
3	4	3		1					3		1					3		1				
4	3							3							3			3				
5	--																					
6	--																					
7	--																					
8	--																					
Total	25	19		1				5	18		3				4	15		9				1

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Mann
Student Group 3rd Grade (1967-68)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	1	1													1			1				
2	9	8		1					7		2					7		2				
3	4	4							4							3		1				
4	4	4							3						1	2		2				
5	--																					
6	--																					
7	--																					
8	--																					
Total	18	17		1					14		2				2	12		6				

*Information specified by categories A, B, and C is not available.

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Mann
Student Group 4th Grade (1967-68)

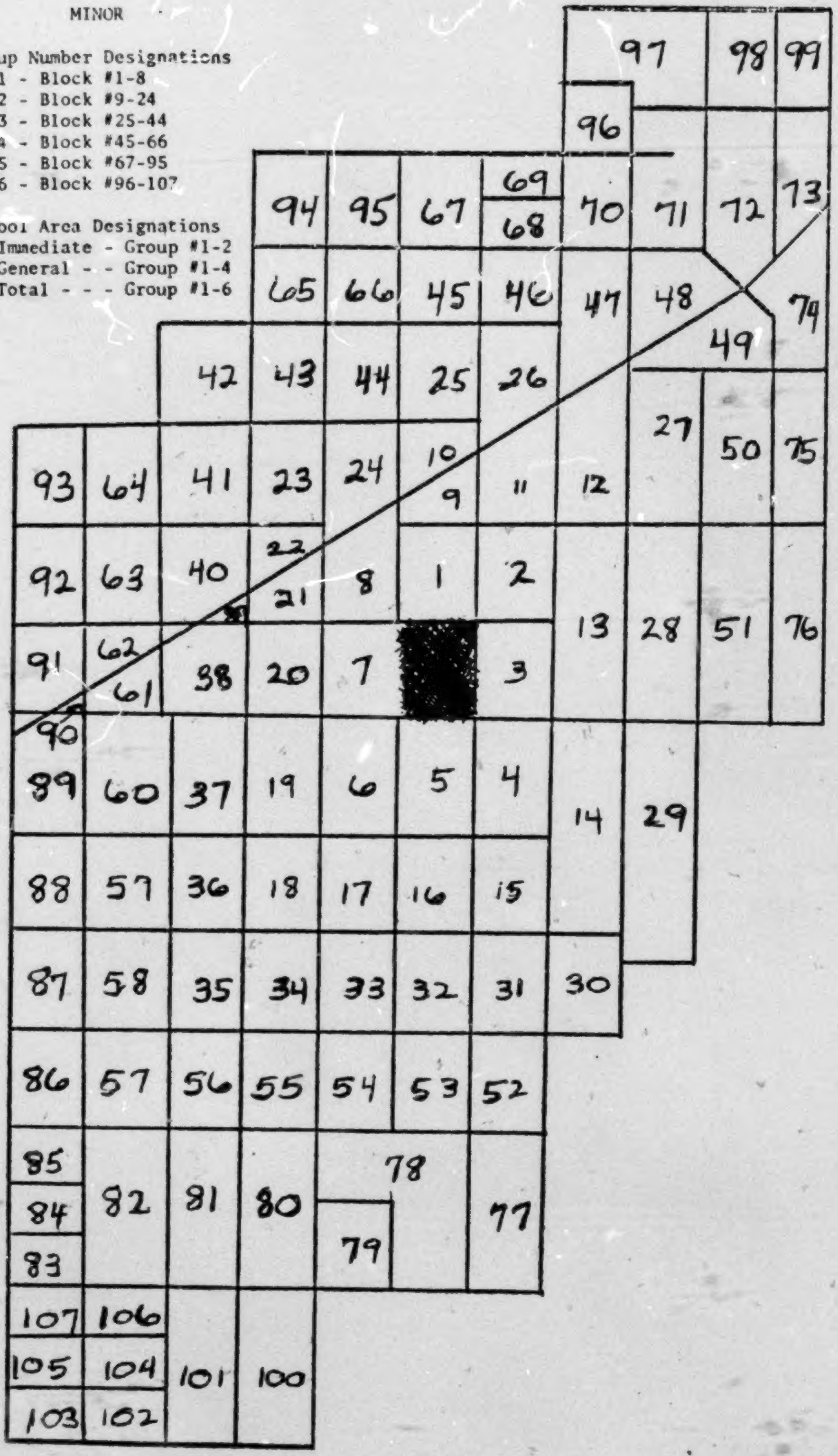
Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	1	1							1							1						
2	14	13		1					10		4					8		6				
3	3	3							3							3						
4	2	2							2							1		1				
5	1			1							1							1				
6	--																					
7	--																					
8	--																					
Total	21	19		2					16		5					13		8				

3B-4

MINOR

Group Number Designations
1 - Block #1-8
2 - Block #9-24
3 - Block #25-44
4 - Block #45-66
5 - Block #67-95
6 - Block #96-107

School Area Designations
Immediate - Group #1-2
General - - Group #1-4
Total - - - Group #1-6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93
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23
24
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92
63
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22
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39
91
62
61
38
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33
32
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107
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105
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102
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100

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Minor
Student Group 2nd Grade (1967-68)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	5	5							2		3					1		3				1
2	10	7		3					4		6					3		7				
3	11	9		2					6		4				1	3		7				1
4	10	7		2				1	5		2				3	5		2				3
5	8	5		3					5		3					5		2				1
6	7	6		1					5		2					4		3				
Total	51	39		11				1	27		20				4	21		24				6

*Information specified by categories A, B, and C is not available.

3B-6

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Minor
Student Group 3rd Grade (1967-68)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	1	1							1							1						
2	9	7	1	1					5	1	1				2	3	1	1				4
3	10	9						1	8		1				1	8		1				1
4	9	7		2					6		2				1	3		4				2
5	12	11		1					11		1					10						2
6	1			1							1							1				
Total	42	35	1	5				1	31	1	6				4	25	1	7				9

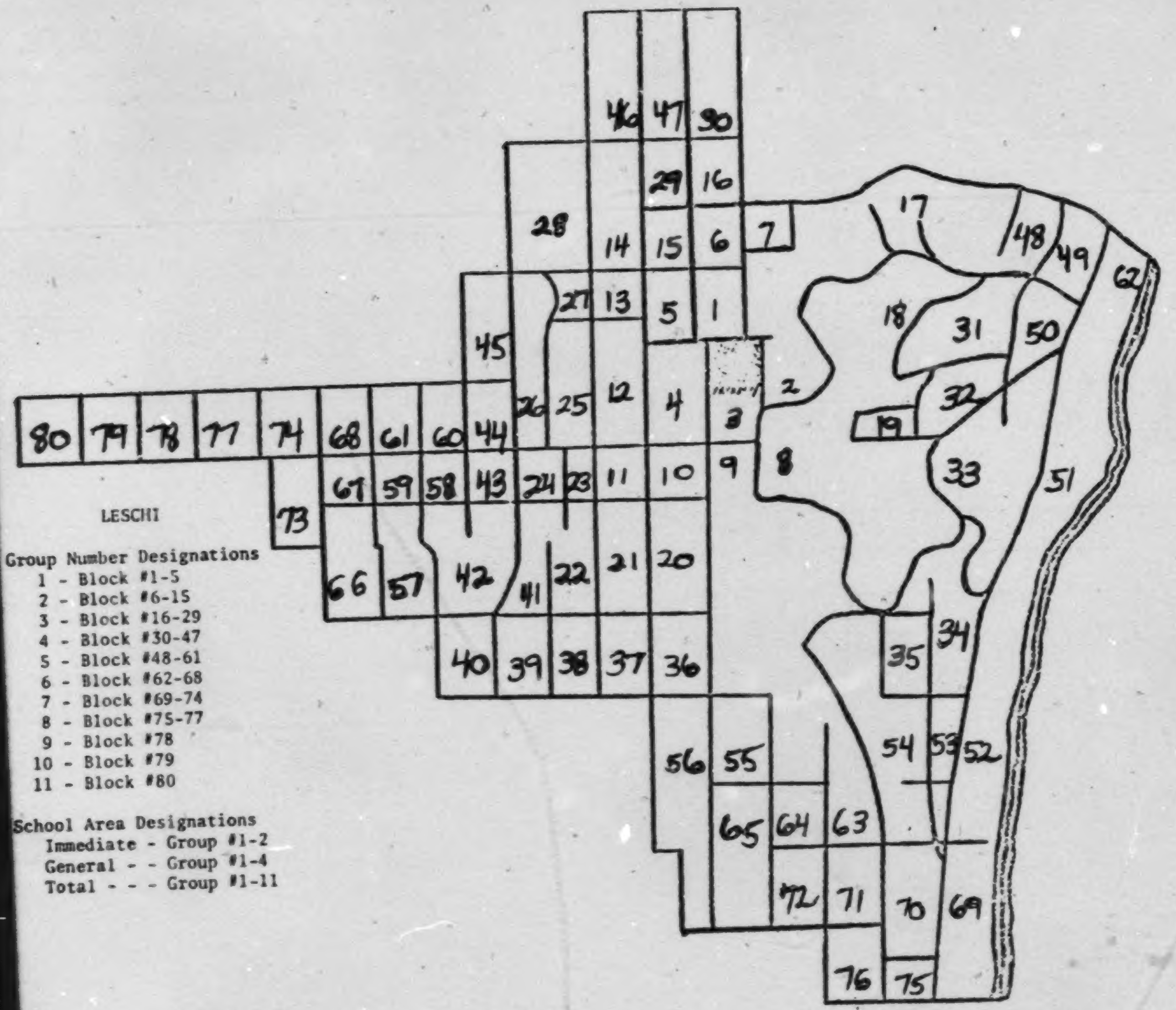
*Information specified by categories A, B, and C is not available.

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Minor
Student Group 4th Grade (1967-68)

Grouping	Students	Year 1							Year 2							Year 3						
		Sa[illegible] Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	1	1							1							1						
2	7	7							6		1					6		1				
3	10	6		4					5		5					5		5				
4	10	8		2					6		4					6		4				
5	5	4		1					4		1					4		1				
6	3	3							3							2		1				
Total	36	29		7					25		11					24		12				


46
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31
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32
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75

LESCHI

Group Number Designations
1 - Block #1-5
2 - Block #6-15
3 - Block #16-29
4 - Block #30-47
5 - Block #48-61
6 - Block #62-68
7 - Block #69-74
8 - Block #75-77
9 - Block #78
10 - Block #79
11 - Block #80

School Area Designations
Immediate - Group #1-2
General - - Group #1-4
Total - - - Group #1-11

3B-9

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Leschi
Student Group 2nd Grade (19

Grouping	Students	Year 1							Year 2							Year 3					
		Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of Di		
					A	B	C	Total				A	B	C	Total				A	B	C
1	2	2							2							2					
2	7	7							6						1	4		1			
3	12	8		4					6		5				1	5	1	6			
4	9	8		1					4	1	4					2	2	5			
5	1	1							1							1					
6	--																				
7	1	1							1							1					
8	--																				
9	--																				
10	--																				
11	--																				
Total	32	27		5					20	1	9				2	15	3	12			

*Information specified by categories A, B, and C is not available.

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Leschi
Student Group 3rd Grade (1967-68)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District				Same Residence	In School Area	In Seattle District	Out of District			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	6	3	1	2					3	1	2					3	1	1	1			1
2	6	6							4		2					3		2	1			1
3	13	13							10		2	1			1	9		2	2			2
4	8	6		2					4		3	1			1	3		3	2			2
5	6	4		2					3		3					3		2	1			1
6	--																					
7	--																					
8	--																					
9	--																					
10	--																					
11	--																					
Total	39	32	1	6					24	1	12	2			2	21	1	10	7			7

A - Residence Unknown
B - Residence Known (Outside of Seattle)
C - Private or Parochial School

Summary of Mobility Data

School Leschi
Student Group 4th Grade (1967-68)

Grouping	Students	Year 1							Year 2							Year 3						
		Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*				Same Residence	In School Area	In Seattle District	Out of District*			
					A	B	C	Total				A	B	C	Total				A	B	C	Total
1	5	3		2					1		4					1		4				
2	8	6		2					2		6					2		6				
3	8	5		3					3		5					2		6				
4	10	7		3					6	1	3					3		3				4
5	--																					
6	3	3							2		1					2		1				
7	1	1							1							1						
8	--																					
9	--																					
10	--																					
11	--																					
Total	35	25		10					15	1	19					11		20				4

*Information specified by categories A, B, and C is not available.

Attachment 4A

SAMPLE CENSUS BLOCKS IN CLOSURE-CONTROL SCHOOLS

(Including Number of Properties in Each)

Sample Census Blocks

Block Numbers Number of Properties

Interlake

050109---- 9
050113---- 1
050119---- 2
050120----13
050206---- 5
050315---- 5
050317----10
050419---- 8
051103----10
051112----17
051212----11
051411----10
051501----10
051505----15
051506----14
051507---- 9
051509---- 1
051512----10
051514---- 9
054201---- 9

Allen

028304----14
028306----19
028310----14
028312----15
029303---- 2
034105----13
034108----18
034112----16
035105----17
035106----19
035109---- 6
035111----14
035113----20
035206----11
035217---- 7
035411---- 7
035416----15
035506---- 7
035511---- 5
035513----16
035515----14
035518---- 4

Block Numbers Number of Properties

Mann

079105----20
087114----18
087205----14
087305---- 6
087408----15
088104---- 5
088105----10
088201----26
088212---- 9
088212----10
088312----11
088408----18
088413---- 3
088415---- 2
088501---- 3
088502---- 7
088507---- 5
088510----10

Minor

075206----11
076110---- 9
079103---- 3
079202----15
079208----12
079209----11
079305----14
079306---- 6
079404---- 8
079405---- 4
079505---- 6
079510---- 2
086101----13
086104---- 9
086112---- 9
086211---- 3
087105----13
087501----13
087510----12

Leschi

Block Numbers	Number of Properties
078206	11
078212	6
078220	5
078301	7
078304	9
087215	6
087301	6
088206	12
088301	12
088302	14
088305	4
088306	3
088309	7
088313	4
089103	10
089104	1
089108	10
089209	6
089210	13
089606	11
089625	7

Decatur

Block Numbers	Number of Properties
022209	5
022211	14
022212	5
022301	14
022305	9
022307	12
022308	10
022309	5
022309	13
022309	5
024101	7
024101	5
024103	3
024103	9
024103	4
024107	11
024107	12
024107	3
024109	7
024202	16
024204	8
024205	6
024206	11
024208	8
024301	9
024505	17
024507	10

Maple Leaf

Block Numbers	Number of Properties
010105	14
010201	23
010203	14
010206	26
010207	21
010208	16
021101	7
021103	13
021103	10
021105	15
022106	26
022113	11
022115	11
022116	13
022201	8
022204	12
022209	9

Attachment 4B

CONTENTS OF PROPERTY DATA FILE

(Including Card Format)

NIS Data Coding

Column	Item-Coding
1-2	year
3	blank
4	change notation, I or A-improvement S -segregation M -merger F -folio change T or D-structure demolished
5	blank
6-10	assessed land value
11-17	assessed improvement value
18-24	sale price
25-28	date of sale (mo., yr.)
29	school, 1-Interlake 5-Leschi 2-Allen 6-Decatur 3-Mann 7-Maple Leaf 4-Minor
30-32	census tract
33	lot in block (alpha)
34-36	census block
37-39	distance, center of block to school, in mm, from Kroll map
40-41	year of latest zoning change
42	assessor's zone designation, RES-residential MM-minimum multiple NO-no information
43-44	blank
45-46	use code, R1-single family dwelling R2-two family dwelling R3-three or more
47	assessor's grade (1-7, from a scale of 1-13)

Column	Item-Coding
48-50	number of stories in structure
51-52	number of rooms in structure
53-57	square feet of heated area in structure
58-59	year of construction
60-64	land area, square feet
65	number of occurrences of type I change in available history
66	" " " S " " " "
67	" " " M " " " "
68	" " " F " " " "
69	" " " P " " " "
70	" " " D " " " "
71	blank
72-80	sequence number

Attachment 4C

MISCELLANEOUS TABLES ON ASSESSMENT/SALES OF PROPERTY

Assessed Value on Land, 1950-1974
(expressed as adjusted dollars per square foot of land)

Calendar Year	School Attendance Area[b]						
	Interlake (124)	Allen (251)	Mann (170)	Minor (42)	Leschi (134)	Decatur (235)	Maple Leaf (247)
1950	.28	.28	.23	--	.26	.21	.10
1951	.28	.28	.24	.22	.25	.19	.10
1952	.28	.31	.24	.23	.30	.18	.11
1953	.27	.31	.26	.25	.35	.23	.11
1954	.29	.33	.26	.25	.36	.24	.11
1955	.29	.33	.26	.25	.36	.28	.20
1956	.29	.36	.25	.25	.35	.32	.21
1957	.32	.40	.26	.25	.35	.35	.21
1958	.37	.40	.26	.26	.35	.34	.21
1959	.37	.40	.26	.25	.35	.34	.20
1960	.37	.40	.26	.25	.35	.40	.41
1961	.37	.40	.26	.25	.35	.40	.41
1962	.38	.43	.26	.25	.35	.52	.41
1963	.53	.65	.26	.25	.35	.52	.41
1964	.53	.65	.41	.35	.47	.52	.41
1965	.52	.65	.41	.36	.47	.52	.41
1966	.52	.65	.41	.36	.47	.62	.59
1967	.53	.65	.41	.36	.47	.63	.59
1968	.53	.65	.41	.36	.47	.63	.58
1969	.53	.65	.40	.36	.47	.79	.58
1970	1.09	1.22	.40	.35	.46	.95	.83
1971	1.09	1.22	1.06	.89	1.22	1.02	.90
1972	1.09	1.22	1.06	.89	1.20	1.02	.90
1973	1.09	1.22	1.06	.89	1.20	1.02	.90
1974	1.11	1.21	1.03	.88	1.18	1.01	.84

[a] The adjustment dollars simply means that all assessments for 1950-1969 were multiplied by four and those for the 1970-72 period were multiplied by two in order to adjust for changes in assessment practices.

[b] The number of properties in each school area is designated in parentheses following the school name. All properties in the file are currently classified for residential use.

Assessed Value on Improvements, 1950-1974

(expressed as adjusted dollars per square foot of heated area)[a]

Calendar Year	School Attendance Area[b]						
	Interlake (124)	Allen (251)	Mann (152)	Minor (30)	Leschi (116)	Decatur (235)	Maple Leaf (245)
1950	2.68	2.36	--	--	2.04	4.19	3.40
1951	2.55	2.45	3.23	3.57	2.65	4.58	3.59
1952	2.68	2.80	2.64	2.92	3.19	4.96	4.56
1953	2.93	2.86	2.76	2.33	3.00	5.11	4.50
1954	2.89	2.82	2.70	2.26	3.07	5.19	4.56
1955	2.90	2.86	2.71	2.46	3.10	5.27	4.55
1956	2.90	2.85	2.75	2.46	3.17	5.35	4.75
1957	2.91	2.86	2.78	2.49	3.19	5.36	4.92
1958	2.92	2.87	2.91	2.98	3.33	5.43	5.04
1959	3.10	2.93	3.00	2.98	3.40	5.50	5.16
1960	3.10	2.96	3.01	3.01	3.41	5.51	5.23
1961	3.38	4.00	3.01	3.19	3.41	6.34	6.23
1962	3.97	4.02	4.01	3.91	4.01	6.39	6.49
1963	3.99	4.02	4.00	3.93	4.39	6.44	6.49
1964	4.04	4.01	4.01	3.94	4.40	6.53	6.52
1965	4.04	4.01	4.03	3.94	4.54	6.61	6.59
1966	4.06	4.02	4.12	3.94	4.55	6.60	6.59
1967	4.06	4.08	4.14	3.94	4.60	6.62	6.65
1968	4.08	4.08	4.14	3.94	4.60	6.63	6.67
1969	4.13	4.09	4.14	3.94	4.67	6.65	6.71
1970	8.20	8.21	4.17	3.94	4.67	8.98	10.00
1971	8.18	8.24	7.44	6.88	8.33	10.63	11.05
1972	8.18	8.26	7.53	7.15	8.45	10.63	11.08
1973	8.18	8.26	7.53	7.15	8.45	10.64	11.08
1974	9.93	10.23	8.46	7.66	9.04	13.09	13.32

[a] Adjusted dollars are derived by multiplying all assessments for 1950-1969 by four and those for the 1970-73 period by two, thus reflecting assessment practices during those time periods.

[b] The number of properties in each school area is designated in parentheses following the school name. All properties in the file are currently classified for residential use.

Sales Values and Numbers of Sales for Residential Property, 1950-1974*

Calendar Year	School Attendance Area						
	Interlake	Allen	Mann	Minor	Leschi	Decatur	Maple Leaf
1950	0 (0)	0 (0)	0 (0)	0.82 (1)	0.40 (5)	0 (0)	1.28 (1)
1951	1.59 (6)	3.26 (9)	1.42 (10)	0.92 (3)	1.87 (11)	1.62 (20)	1.70 (4)
1952	2.23 (2)	2.33 (12)	1.58 (5)	0.79 (1)	1.91 (2)	2.04 (7)	1.19 (8)
1953	2.24 (7)	2.21 (12)	1.18 (9)	2.18 (2)	1.58 (6)	2.15 (5)	2.34 (18)
1954	0.84 (3)	2.05 (8)	2.20 (7)	1.56 (2)	2.49 (4)	1.84 (8)	1.53 (17)
1955	2.62 (8)	2.63 (16)	1.43 (9)	1.58 (2)	1.78 (9)	2.01 (20)	1.46 (18)
1956	2.06 (16)	2.19 (21)	2.29 (7)	2.08 (1)	1.87 (11)	1.92 (19)	1.81 (22)
1957	2.49 (16)	2.43 (33)	2.03 (15)	1.45 (5)	1.92 (16)	2.03 (27)	2.01 (33)
1958	2.22 (12)	2.47 (23)	2.31 (18)	0.87 (2)	2.02 (14)	2.67 (34)	2.02 (33)
1959	2.29 (10)	2.74 (18)	2.54 (8)	2.06 (3)	2.87 (7)	2.61 (18)	2.19 (16)
1960	2.83 (6)	3.08 (26)	2.63 (16)	1.38 (7)	2.20 (8)	2.45 (21)	2.56 (27)
1961	2.98 (20)	3.26 (22)	2.52 (14)	1.67 (5)	2.37 (19)	2.61 (29)	2.26 (39)
1962	2.97 (9)	2.87 (31)	2.18 (14)	1.21 (2)	2.30 (14)	2.74 (38)	2.22 (45)
1963	2.98 (12)	3.20 (15)	2.49 (16)	1.56 (4)	2.37 (13)	2.18 (22)	2.29 (17)
1964	2.87 (10)	2.72 (20)	2.68 (16)	1.82 (4)	2.83 (13)	2.75 (30)	2.71 (20)
1965	2.67 (16)	2.58 (20)	2.06 (13)	1.11 (2)	2.54 (9)	3.20 (22)	2.40 (18)
1966	2.94 (7)	2.80 (28)	2.26 (18)	2.69 (3)	2.66 (13)	2.82 (23)	2.40 (25)
1967	3.17 (7)	3.00 (18)	2.45 (12)	2.75 (4)	3.34 (13)	2.93 (20)	2.97 (16)
1968	2.87 (14)	3.66 (27)	3.21 (12)	0 (0)	2.29 (5)	3.21 (18)	2.62 (18)
1969	4.10 (8)	4.20 (16)	3.48 (10)	2.67 (2)	3.37 (7)	3.47 (12)	3.20 (11)
1970	3.34 (7)	4.10 (18)	3.35 (9)	3.06 (3)	3.61 (8)	3.42 (9)	2.56 (11)
1971	3.76 (11)	4.19 (26)	4.60 (6)	2.12 (6)	4.21 (6)	3.69 (16)	3.09 (17)
1972	4.15 (11)	3.84 (19)	3.00 (7)	3.88 (3)	3.74 (6)	3.50 (18)	3.13 (21)
1973	4.07 (9)	4.55 (16)	1.22 (3)	0.40 (1)	9.44 (8)	4.00 (13)	3.27 (16)
1974	4.94 (11)	4.68 (25)	2.48 (6)	0.49 (1)	0 (0)	3.74 (17)	4.02 (17)

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*The sales values are expressed in average dollars per square foot of land for the designated school attendance areas. Included in this sales value is the cost of both the land and improvement. The number of sales used to derive the sales value figure is indicated in parentheses following the sales value figure.

Attachment 5A

CONSTRUCTION OF CRIME AND FIRE RATES BY SCHOOL ATTENDANCE AREA

Construction of Crime Rates

A crime rate as used in this study is the number of offenses per 1000 population. It is constructed in the following way. First, data listing offense by census tract of occurrence are available. Second, the percentage of population in the tract which lies within the school attendance area is known. In order to know how many offenses which occurred in the tract actually happened within the school attendance area, one must assume that crime is evenly distributed throughout the census tract. To estimate the number of offenses in a given tract that should be allocated to the school attendance area, the percentage of the population of the tract within the school attendance area is multiplied times the number of offenses occurring in the tract. This procedure is repeated for all tracts which include in their areas parts of the school attendance area. After this has been done, the sum of allocated offenses is taken. This sum represents the estimated number of offenses occurring in the school attendance area in a given year.

The crime rate is simply expressed as $r = \frac{\text{number of offenses} \times 1000}{\text{population of attendance area}}$. Given the difficulty of generating population estimates for each year, 1970 school attendance area population figures are used as these are readily available. The crime rate is simply a device used for making comparisons of criminal activity in various geographical areas.

In most cases, crime in a given census tract is allocated to the attendance area according to the percentage of the tract which lies within the school attendance area. There are some exceptions to this guideline. For example, census tract 109 is 97.9 percent within the Georgetown attendance area. The part of the tract which lies without the area is part of the Concord area yet is actually closer to Georgetown Elementary than it is to Concord Elementary. A large part of tract 109 that is without the Georgetown area is Boeing Field and only a small section of that portion of the tract is residential. Since this residential portion of the tract is closer to Georgetown school, 100 percent of tract 109 is allocated to the Georgetown attendance area.

Another exception to the general guideline is that when less than 3 percent of the tract is included in the attendance area, offenses in that tract are excluded from analysis. Thus, in the Concord area where two tracts are outside of Seattle city limits and where three tracts are less than 3 percent within the attendance area, only tract 112 is used for analysis. In the Summit area where 3.1 percent of tract 75 is in the attendance area, offenses in this tract are included, because the area is relatively homogeneous and because it is a high crime area.

This allocation procedure admittedly has its faults. This is particularly true when it is said that 11.5 crimes in tract x are allocated to the school attendance area. In cases where there is a fraction of crimes, 0.5 or greater numbers are rounded to the next higher whole number. For example, 11.5 would be rounded to 12. It is important to remember that these crime rates are at best estimates of criminal activity in a given neighborhood. Detailed data sheets containing the numbers of crimes in each tract and the numbers allocated to school attendance areas are available at the Bureau of School Service and Research, University of Washington.

Construction of Fire Rates

A fire rate as used in this study is the number of residential fires per 1000 occupied households. It is defined as $r = \frac{\text{\# of residential fires x 1000}}{\text{\# of occupied households}}$.

The number of residential fires in a given school attendance area is determined in the same way as is the number of crimes in a given school attendance area. The allocation process and the percentages of census tracts used in the process are the same as those used in the analysis of crime statistics. Again, it is assumed that fires are evenly distributed throughout the census tract.

The number of occupied households is determined in the following way. The number of occupied households by census block is available as is the percentage of each block which is included in the school attendance area. Thus, the number of households in a given block which is in the school attendance area is the product of the number of households within the block and the percentage of that block within the school attendance area. By repeating the procedure for all blocks in the attendance area and by summing over the blocks, it is possible to obtain the estimated number of occupied households in the school attendance area. Again, one must assume that occupied households are evenly distributed throughout the census block.

With this information, it is possible to compute fire rates for closure, control, and city areas. These rates are estimates of the number of residential fires per 1000 occupied households. Detailed data sheets demonstrating the construction of these rates are available at the Bureau of School Service and Research, University of Washington.

Attachment 5B

PART ONE AND PROPERTY CRIME STATISTICS FOR CITY AND SCHOOL NEIGHBORHOODS

Differences between School Neighborhood and City Property Crime Rates[a]

School Area[b]	Two Years Before Closure	One Year Before Closure	Year of Closure	One Year After Closure	Two Years After Closure
Interlake (1971)	+ 2.13	- 4.22	-11.80	-15.84	24.75
Allen	-15.36	-24.10	-21.32	-21.25	-26.94
Georgetown (1971)	173.31	145.08	122.87	86.64	89.59
Concord	- 2.87	10.84	4.29	36.92	17.17
Mann (1968)	15.99	12.31	47.56	50.13	32.03
Minor	21.35	32.60	64.70	81.06	49.36
Leschi	12.69	8.86	26.39	20.27	13.92

[a] "Crime rates" refers to the number of reported offenses per thousand population. The differences are those between neighborhood and city-wide property offenses for the years under consideration. A positive difference indicates the rate of crime was higher in the school neighborhood area than it was in the city as a whole.

[b] The year of closure is indicated for closure schools. Crime rates are listed for two years before and after closure; e.g., in Interlake-Allen, property offenses are listed for the years 1969, 1970, 1971, 1972 and 1973.

Part One Crime Rates

(Number of Reported Offenses per Thousand Population)

School Area	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Interlake							37.68	40.07	51.60	92.06	79.34	71.24	56.77	52.63	65.67	
Allen							32.46	42.45	56.72	74.10	58.36	54.09	48.03	48.03	50.16	
Decatur							15.67	19.83	22.39	30.71	35.51	31.35	25.59	40.94	39.35	25.59
Maple Leaf							23.53	28.86	33.75	50.18	47.74	49.29	36.63	37.52	58.61	43.96
Georgetown							176.96	205.14	215.08	284.70	257.36	218.81	174.89	184.00	211.36	
Concord							61.39	52.67	66.42	94.26	99.63	88.90	113.05	101.31	98.96	
Mann				65.92	73.18	73.18	83.04	105.79	164.67	188.59	151.54	147.78	113.54	122.21		
Minor				68.27	68.43	67.61	87.21	126.25	177.69	222.76	172.46	169.19	142.41	156.13		
Leschi				40.48	46.32	56.54	72.81	95.35	126.43	142.50	123.51	114.12	97.43	89.09		
Summit	165.72	187.34	243.67	209.31	213.44	192.98	220.41	495.41	335.21	392.52	346.61					
Maple							38.87	49.98	50.41	81.16	77.53	71.98	67.28	68.56	79.03	
City	34.15	34.82	43.36	40.22	42.64	41.13	48.31	69.66	73.64	96.86	89.58	81.66	74.51	81.45	92.06	93.25

5B-2

Property Crime Rates

(Number of Reported Offenses per Thousand Population)

School Area	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Interlake							33.55	35.62	45.95	86.18	72.83	58.04	47.54	45.63	58.20	
Allen							28.69	38.69	51.14	68.69	52.95	48.52	42.13	43.44	45.25	
Decatur							15.03	19.19	20.79	28.47	32.95	29.11	24.31	38.71	36.47	23.03
Maple Leaf							20.87	26.64	31.53	47.74	43.07	44.40	32.85	34.41	54.84	39.30
Georgetown							152.92	181.52	179.44	257.36	222.13	192.71	150.02	159.97	193.12	
Concord							52.33	44.95	61.05	81.18	87.89	74.13	100.30	87.55	85.21	
Mann				60.52	58.17	54.66	61.93	74.60	110.25	134.18	109.08	103.68	77.64	91.48		
Minor				63.04	56.18	52.26	67.29	94.89	127.39	165.11	126.41	125.27	105.34	120.37		
Leschi				37.97	39.01	44.02	58.63	71.15	89.08	104.32	90.97	82.41	70.31	69.26		
Summit	157.75	173.62	235.47	200.94	195.59	171.65	189.26	461.81	285.52	324.58	295.33					
Maple							34.60	44.22	41.86	70.91	67.71	48.70	49.55	55.96	67.28	
City	32.80	33.45	41.73	38.58	38.60	36.57	45.94	62.29	62.69	84.05	77.05	69.84	63.38	70.38	79.98	79.38

Attachment 5C

RESIDENTIAL FIRE STATISTICS FOR CITY AND SCHOOL NEIGHBORHOODS

5C-1

Residential Fire Rates

(Number of Residential Fires per Thousand Occupied Households)

School Area	1966	1967	1968	1969	1970	1971	1972	1973	1974
Interlake	6.65	4.16	5.83	5.83	5.41	6.66	7.91	5.83	4.16
Allen	6.43	4.71	5.14	6.43	5.57	4.71	4.71	4.29	4.71
Decatur	1.98	3.97	3.97	3.97	1.98	1.98	1.98	3.97	1.98
Maple Leaf	4.45	5.19	6.68	4.45	5.93	4.45	5.19	5.19	4.45
Georgetown	12.21	11.27	5.63	13.15	5.63	12.21	15.02	8.45	9.39
Concord	13.53	11.84	12.69	10.15	5.92	5.92	9.31	11.84	8.46
Mann	21.22	15.25	19.89	25.86	15.92	19.23	11.94	17.90	14.59
Minor	11.64	11.98	14.03	15.75	13.01	13.69	11.30	10.61	13.01
Leschi	12.33	11.77	15.13	17.94	10.65	12.89	9.53	13.45	11.77
Summit	9.42	10.99	9.59	9.09	8.26				
Maple	4.48	3.84	3.84	4.48	6.40	5.76	7.04	10.24	5.76
City	6.22	6.48	6.92	6.62	5.93	6.52	6.45	6.90	6.44

Attachment 6A

PROBLEMS IN ALLOCATING LEGISLATIVE DISTRICT PRECINCTS TO SCHOOL ATTENDANCE AREAS

Once maps including school attendance and precinct boundaries were drawn, it was necessary to allocate legislative district precincts to school attendance areas. Only those precincts close to the school and 75 percent or more within the attendance area are allocated to the school area. It is not possible to follow this general guideline in all cases. The reason for this is twofold. First, precincts are aggregated for reporting purposes, and it is not possible to split these aggregates without examination of individual voting records. Thus, in some cases it was necessary to include precincts almost totally without the attendance area. For example, in the Leschi area, precincts 85, 87, and 101 are aggregated for reporting purposes. Precinct 87 is almost totally without the Leschi attendance area, but precincts 85 and 101 are totally within. In order to include precincts 85 and 101, in which Leschi Elementary School is located, it is necessary to include precinct 87.

A second reason why it is not always possible to follow the general guideline described above is that precinct boundaries change over time due to legislative redistricting. These changing boundaries make it difficult to obtain geographic units which are comparable over time. When boundary and aggregation problems are coupled, it is even more difficult to obtain these comparable geographic units. This combination of problems is most apparent in the Maple Leaf and Georgetown areas. For example, in Georgetown in 1973, new precinct 130 was constructed to include old precincts 130 and 132. In turn, new precinct 130 was aggregated with precincts 131 and 129, both of which are totally without the Georgetown area. Even though precinct 130 is for the most part within the Georgetown attendance area, it was excluded from analysis partly because it is industrial and is located some distance from the school. Given this and given that precinct 130 is aggregated with two precincts totally without the attendance area, it makes sense to exclude precinct 130 from the analysis.

An attempt has been made to achieve comparable geographic areas for the purpose of analysis of levy results. Due to the aforementioned problems, it has not been possible to secure comparable units in all cases. For the most part, however, it is possible to obtain comparability. In the cases of Interlake-Allen, Decatur, Mann, and Minor comparable geographic units with minor variations exist. Leschi presents one hindrance which has been mentioned. Precinct boundaries in the Georgetown and Concord areas have changed markedly, but precincts close to the schools have remained unchanged for the most part. By examining precincts close to the school, it is possible to circumvent the problems of redistricting and aggregation.

The Maple Leaf area, where precinct boundary changes have been frequent and where numerous combinations of precincts for reporting purposes have occurred, presents the greatest problem with respect to achieving comparability. Not only is it difficult to achieve comparability for the whole attendance area, it is difficult to obtain areas close to the school which are comparable over time. The problem is greatest in the years 1972-1975 when precinct boundary changes were frequent.

Specific maps of the attendance areas and data sheets exhibiting levy results used in the analysis are available at the Bureau of School Service and Research.

Attachment 6B

SELECTION OF PRECINCTS CLOSE TO THE SCHOOL

In order to circumvent the problems involved in allocation and in order to determine if school support in areas close to the school is related to school closure, precincts close to the school were selected for analysis. The problems involved in the selection of these precincts are similar to those encountered in the allocation of precincts to attendance areas. Due to aggregation of precincts, it is necessary to select several precincts in some school areas, whereas in other areas it is necessary to select only two precincts. For example in the Interlake area six precincts were selected, whereas in Georgetown only two were selected. Georgetown Elementary School is located in precinct 95 which is aggregated with precinct 92 for reporting purposes whereas Interlake Elementary School is located in precinct 107 which is aggregated with precincts 108 and 109, and is close to precincts 110 and 111 which are aggregated with precinct 119. It would seem that the concept of closeness to school differs in the various attendance areas due in part to precinct size and aggregation. Because of this, the selection process is somewhat arbitrary.

Again, the combination of precinct boundary changes and aggregation of precincts hinders the achievement of comparable geographic units particularly in the Maple Leaf and Leschi areas. In these areas, it is not possible to obtain areas close to the school; hence results are missing for certain time periods. Data sheets containing precincts "close to school" used in the analysis of levy results are on file at the Bureau of School Service and Research.

Attachment 6C

LEVY DATA

Percent "Yes" to Levy

School Area	11/66	1/67	11/67	11/68	2/69	11/69	1/70	3/71	5/71	2/72	2/73	3/73	2/74	2/75
Interlake				58.8	75.2	56.5	79.1	67.3	80.9	63.1	56.1	68.5	67.0	47.6
Allen				50.6	69.0	48.5	75.2	53.3	72.1	54.7	45.3	54.1	53.3	41.4
Decatur				63.8	83.6	63.0	81.9	63.3	78.2	63.6	54.7	61.0	68.0	53.9
Maple Leaf				66.1	83.5	64.7	85.2	61.6	79.8	65.5	57.0	69.4	72.9	56.5
Georgetown				45.7	55.7	38.3	57.5	33.3	60.8	42.2	35.1	46.7	39.3	43.0
Concord				49.1	58.7	44.8	66.3	56.5	71.6	38.3	37.2	53.4	44.3	35.8
Mann	64.1	91.3	76.5	73.7	85.9	69.0	92.1[a]	82.3	93.2	80.2				
Minor	60.0	82.6	63.9	67.4	82.8	62.7	82.0	74.4	86.9	66.2				
Leschi	66.0	93.7	79.2	73.9	87.3	74.5	93.0	87.8	94.3	79.3				
City	58.1	84.2	66.8	58.3	76.2	56.5	77.9	63.1	79.0	60.0	53.8	63.3	63.8	49.9

[a] One precinct not reported -- partial results.

Percent "Yes" to Levy in Precincts Close to School

School Area	11/66	1/67	11/67	11/68	2/69	11/69	1/70	3/71	5/71	2/72	2/73	3/73	2/74	2/75
Interlake				58.2	74.9	59.3	79.6	63.7	78.9	61.7	55.9	65.6	63.9	45.8
Allen				55.4	68.4	54.0	75.3	54.9	72.9	58.2	48.1	57.0	56.7	43.3
Decatur				62.2	82.4	60.1	82.4	61.2	77.4	64.9	52.0	59.2	69.2	52.7
Maple Leaf				65.1	84.0	65.3	a	a	a	65.7	63.9	72.6	75.3	55.8
Georgetown				50.9	58.7	38.1	60.0	31.2	59.0	38.7	35.7	51.8	36.8	35.3
Concord				47.2	68.2	44.1	72.4	56.7	64.3	41.3	32.7	49.6	43.0	32.1
Mann	66.2	91.7	78.2	73.5	87.1	70.2	94.0[b]	81.4	94.2	81.9				
Minor	60.3	82.6	59.6	64.1	82.3	62.4	87.8	74.3	92.2	a				
Leschi	63.2	a	77.7	75.4	87.1	76.7	a	a	a	79.5				

[a] Results not attainable as changes in aggregation of precincts for reporting purposes make it impossible to obtain comparable geographic areas over time.

[b] One precinct not reported -- partial results.

Percent Differences Between "Yes" Vote in School Attendance Areas and Precincts Close to School

School Area	11/66	1/67	11/67	11/68	2/69	11/69	1/70	3/71	5/71	2/72	2/73	3/73	2/74	2/75
Interlake				0.6	0.3	-2.8	-0.5	3.6	2.0	1.4	0.2	2.9	3.1	1.8
Allen				-4.8	0.6	-5.5	-0.1	-1.6	-0.8	-3.5	-2.8	-2.9	-3.4	-1.9
Decatur				1.6	1.2	2.9	-0.5	0.4	0.8	-1.3	2.7	1.8	1.2	1.2
Maple Leaf				1.0	-0.5	-0.6	a	a	a	-0.2	-6.9	-3.2	-2.4	-0.7
Georgetown				-5.2	-3.0	0.2	-2.5	0.2	0.8	1.8	-0.6	-5.1	2.5	7.2
Concord				-1.9	-9.5	0.7	-6.1	-0.2	7.3	-3.0	4.5	3.8	1.3	3.7
Mann	-2.1	-0.4	-1.7	0.2	-1.2	-3.2	-1.9	0.9	0.1	-1.7				
Minor	-0.3	0	-0.2	3.3	0.5	0.3	-5.8	0.1	-5.3	a				
Leschi	2.8	a	3.8	-1.5	0.2	-2.2	a	a	a	-0.2				

[a] Results not available due to aggregation of precincts for reporting purposes.